ABSTRACT

EDUCATIONAL LEADERSHIP

MORROW, DRANITA L. B.S. GEORGIA SOUTHERN UNIVERSITY, 2000

M.S.ED. WALDEN UNIVERSITY, 2004

COLLEGE AND CAREER READINESS—STARTING AT THE BEGINNING: IMPLICATIONS FOR AN URBAN SCHOOL DISTRICT ON THE IMPACTS OF PRE-KINDERGARTEN

Committee Chair: Trevor Turner, Ph.D.

Dissertation dated May 2017

This quantitative study focused on the impacts of the pre-kindergarten experience in a large urban district in Georgia. With the ongoing pursuit across the nation to be globally competitive with the education of our youth, this study analyzed multiple factors that can impact student achievement, with an emphasis on the kindergarten readiness variable. The research was conducted within two schools in the same urban district with third graders (who were continually enrolled in the school since kindergarten) and their parents, along with kindergarten and first grade teachers in the same schools. The data collected was analyzed using Pearson correlation, ANOVA, regression analysis, Cronbach's Alpha, and an item to scale test of content validity. In a population where the socioeconomic status is extremely similar, the research concluded that there is no direct significant relationship between student achievement and pre-kindergarten attendance. In the qualitative portion of this study, teachers noted that these students do begin school

behind peers and the instructional practices they put in place close the initial gaps in student learning. Both the quantitative and qualitative portions of this study identify parent engagement as a significant variable in student achievement, student readiness, and student participation in early learning experiences. The researcher provided recommendations to educational policy makers, school district leaders, school administrators, and future researchers based on study findings.

COLLEGE AND CAREER READINESS—STARTING AT THE BEGINNING: IMPLICATIONS FOR AN URBAN SCHOOL DISTRICT ON THE IMPACTS OF PRE-KINDERGARTEN

A DISSERTATION

SUBMITTED TO THE FACULTY OF CLARK ATLANTA UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE DEGREE OF DOCTOR OF EDUCATION

BY

DRANITA LYNETTE MORROW

DEPARTMENT OF EDUCATIONAL LEADERSHIP

ATLANTA, GEORGIA

MAY 2017

ACKNOWLEDGMENTS

A sincere thank you goes to my Committee, Chair, and Professors, Dr. Trevor Turner, Dr. Barbara Hill, Dr. Darrell Groves, Dr. Chandra Walker, Dr. Frances Davis, and Dr. Monica Batiste, for providing guidance and high expectations for this research.

My appreciation and thanks go to my parents, Job and Willie Coleman. Their background knowledge as educators, countless hours of proofreading, and support made this dissertation possible. Love and thanks go to my husband, Tyrone, for taking care of anything that would have been a distraction from this work. Special thanks go to my children, Tyasia, Leila, and Aiden, for providing constant focus on the end goal by asking if I had finished my homework. Heartfelt thanks go to my sister, Danielle, for her laughter and support that made the early rewrites possible. My gratitude goes to my sister-in-law, Jaconda, for the encouragement to keep collecting data despite obstacles.

To the Colemans and the Morrows, I give thanks for gathering together to help so I could focus on this learning journey and speak from a place of knowledge. Thanks are also extended to the CAU cohort family for persevering, succeeding, and celebrating this work throughout the process.

I thank the Lord God for providing a peace that has surpassed understanding in the process of completing and writing this research. He carried me through. *To every thing there is a season, and a time to every purpose under the heaven* (Ecclesiastes 3:1-8).

TABLE OF CONTENTS

CHAPTER

LIST OF FIGURES

Figure

LIST OF TABLES

Table

Table

Table

CHAPTER I

INTRODUCTION

In 1965, President Lyndon B. Johnson instituted the Elementary and Secondary Education Act [ESEA] (ESEA, 2015). In 2001, former President George W. Bush and his administration reauthorized the ESEA and renamed the law the No Child Left Behind Act. According to the National Center for Education Statistics [NCES] (2015), Georgia has performed below the national average as far back as 2000 on the Nation's Report Card (NAEP). With the reauthorization of the Elementary and Secondary Education Act by President George W. Bush, (No Child Left Behind, 2001), states across the nation sought to improve their educational systems. The initial legislation called for a deadline of school reformation by 2014. Upon his inauguration, then President Barack Obama, and the ninth Secretary of Education, Arne Duncan, made several adjustments to the ESEA including a new deadline of 2020 and the rating of schools in three key areas: climate, attendance, and achievement. According to Toppo (2010), Duncan sought to rate schools at three levels of performance. There was a call for a national standard of achievement to ensure that school performance was determined equitably.

States began joining a consortium to identify national learning standards for students in grades K-12 in the subject areas of language arts and math. The standards developed were named the Common Core Standards (Fink, 2015). The consortium designed the standards to prepare students for graduation from high school and college

along with future careers as charged by the President. While attempts were made to reauthorize the ESEA, the process stalled. In 2012, states were offered flexibility in some areas of No Child Left Behind. Under the administration of President Obama, states refocused their attention from closing achievement gaps to ensuring that students were adequately prepared to enter careers or college after high school graduation. In January 2015, Secretary Duncan identified the need for an improved ESEA to address the pre-kindergarten experience and ensure that the program was a quality one (ESEA, 2015).

According to the Georgia Department of Education website, the state high school graduation rate increased from 67.4% in 2011 to 72.5% in 2014 and 78.8% in 2015. While the graduation rate has positively increased under revised federal guidelines, there are two important considerations left for review. With the reauthorization of ESEA what changes, if any, will the federal government implement? How will Georgia continue to increase the graduation rate significantly? What indicators predict students' likelihood of successfully graduating high school?

During his term in office, President Obama identified a need to re-evaluate the foundations of education in the nation. Previously, federal funding focused on K-12, yet there have been ongoing discussions over the last five years regarding the need to address pre-kindergarten (pre-k) experiences and their impact. Koonce (2014) cited that while the federal Head Start Program began in 1964, there have been limitations in implementation across the nation. Due to the limitations of Head Start, several states began delineating state funding into preschool/pre-kindergarten opportunities. Currently, all but six states provide funding to pre-kindergarten programs from their state budgets (Atchison &

Workman, 2015). According to Atchison and Workman (2015), funding amounts range from $903.5 million (California) to $314.3 million (Georgia) to $3 million (Hawaii, Mississippi, and Utah). In Hawaii and Utah, 2014-2015 was the first year each state allotted funding to pre-kindergarten education.

With the federal NCLB Act, school systems across the nation were commissioned to make adequate yearly progress (AYP) so that all students would be performing on or above grade level by the year 2014. "Race to the Top" has adjusted the evaluation lens for schools' performance. Schools are now commissioned to prepare students for a successful future in college and a career. In Georgia, the Department of Education scores school systems on several factors to determine if students within that school district are being made college and career ready. The College and Career Readiness Performance Index (CCRPI) is published annually on the Georgia Department of Education website for public review and "is a comprehensive school improvement, accountability, and communication platform for all educational stakeholders that will promote college and career readiness for all Georgia public school students" (Georgia Standards, 2015a). Previously, schools were rated A-F with AYP. With CCRPI, schools receive a score of 0-110.

In addressing the effectiveness of schools, one should also consider the children they educate and the knowledge with which they arrive. Students entering school are at different levels of readiness, but schools are responsible for preparing all students for long-term success. Identifying ways to strengthen students' initial academic exposure can increase the likelihood of student success.

Statement of the Problem

In December 2015, the Elementary and Secondary Education Act (ESEA) was successfully reauthorized as the Every Student Succeeds Act (ESSA). With the implementation of this act affecting states' educational funding for the 2017-2018 budget year, plans have been underway to realign state practices with federal guidelines. Perhaps most important to this study was the transition from a K-12 focus in ESEA to a P-12 focus in ESSA (ESEA, 2015; ESSA, 2016). While the federal government is not mandating transformation in states, the Act is encouraging a revised thinking of the learning continuum to include preschool through 12th grade. Previously under the ESEA there were a limited number of programs that "require that funds be used to support early learning," however there were programs that provided states the option of using the funds for early learning (Non-Regulatory Guidance Early Learning in the Every Student Succeeds Act: Expanding Opportunities to Support our Youngest Learners, 2016, p. 5). In the preparation for ESSA, early learning studies were reviewed and heavily referenced in support of critical benefits of birth to third grade development. The Act does not encourage average preschool education as having an important impact on little learners; instead the "preschool programs must be of high quality in order to have a significant effect on children's learning and development" (Non-Regulatory Guidance Early Learning in the Every Student Succeeds Act: Expanding Opportunities to Support our Youngest Learners, 2016, p. 6). The policy identifies twelve factors for consideration in determining if a preschool program is high quality.

With the implementation of Common Core Standards and Georgia Milestones Assessment System, the Georgia Department of Education increased the learning expectations across the state. With an increase of rigor and depth of knowledge, there is a greater need to look back at the path of educational preparation from the beginning. The ESSA supports this idea of early learning being birth to third grade. Students cannot be expected to compare parallel text by third grade if they have not met grade level expectation each year prior. For kindergartners the question becomes, did they arrive with all they needed to start the rigorous learning experience? In Georgia, the Georgia Standards of Excellence (GSE) in language arts and math are the standards being taught across the state. If students are not ready to start kindergarten, how can they prepare for first grade? Within the kindergarten experience, some students have one year of instruction needed, while other students need the year of instruction provided in pre-k embedded in their kindergarten curriculum. These students simply need two years of instruction in one year. The ESSA acknowledges not only the academic needs of little learners but also healthy socio-emotional development as well.

The federal government's emphasis on students being college and career ready must be looked at, not from a high school to graduation perspective or from a kindergarten to 12th grade experience, but from a pre-kindergarten through college graduation and successful employment stance. Each experience—college/university, high school, middle school, elementary, and even pre-kindergarten—directly impacts students' success. This study focuses on how student learning before entering kindergarten shapes

the students' academic preparedness and the lasting, if any, effects on student achievement.

Students may enroll in kindergarten from a variety of background experiences. Some students attend pre-k programs in local daycares where there is a designated curriculum. Students experience a daily schedule, interacting with peers, and learning prerequisite skills for kindergarten. They are being taught the constructs of the American schooling experience: walking in line, taking turns, sharing, completing tasks, cleaning up, sitting in a chair, and more. Other students may enroll in kindergarten having no previous school experience. These students may have been at home with parents, family members, or a babysitter. Some of these students may have experienced simple learning opportunities in their homes, but they most likely have not had the demanding structure that is present in kindergarten. For some students, this is the first time they have been away from their mothers for an extended ongoing basis. These students must not only play catch up academically, they also must face social challenges as they learn to take turns, share, and follow directions. The new learners must rapidly shed some previously unaddressed egocentric behaviors.

With increasing expectations, school systems must now look at all factors impacting student's success after graduation. By beginning with a review of the impact of the pre-k experience on kindergarten and first grade student performance, there is the opportunity to increase student achievement. Consider the kindergartener who enters the classroom after spending seven days a week at home with his mother. He has been loved and cared for and has a positive self-image. However, as an only child, he has not had to

share with peers or follow directions from another adult. This student has the potential to lack social skills which the kindergarten teacher will need to foster in the classroom. In another classroom, all students attended private or state funded pre-k and are already able to count, identify colors and shapes, write their names, and take turns exploring centers. The students in this class have an academic advantage over the students who are entering school for the first time and lack these skills. The kindergarten teacher must then teach these skills along with the intensive kindergarten curriculum. If parents are made aware of the prerequisite skills to entering kindergarten, they may be able to address these skills in the home environment before the first day of kindergarten.

This study consists of analyzing the perceptions of teachers on student performance during their first two years of formal education. The research examines teacher efficacy, second grade student achievement data, previous schooling, family structure and engagement, and student demographic data. The study includes two urban elementary schools. The schools are within the same district; however, they provide unique learning environments. Teachers shared perceptions of their effectiveness, professional opinions of the problem, and instructional strategies. Parents provided family demographic information and the pre-kindergarten service model in which students participated.

Purpose of the Study

Students are entering kindergarten lacking prerequisite skills. There is a need to take a critical look at the educational experiences of students to prepare them for graduating college and being career ready. While there is an opportunity for reflection

and analysis on the elementary experience when a student attends elementary school, there may be benefits to reviewing the learning experiences students had before enrolling in the public school setting. The purpose of the study was to examine impacts of the pre-k program the student attended, teacher self-efficacy, and the family make-up of the student in early elementary. Is there the potential that students who attend pre-k programs (private or state funded) continue to outperform their peers who did not attend an organized program by the end of their kindergarten experience? Are these differences in performance still visible by the end of the first grade as well?

Georgia does not require kindergarten enrollment; however, the program is offered largely by all school districts. The state also does not require children to attend pre-kindergarten programs. Local school systems do not consistently house these programs. Students entering kindergarten arrive with prior educational experience falling into four major categories. Students have attended a Georgia pre-k program, where students participated in a program with a state issued curriculum and funding. Students may have participated in a private pre-k experience. These programs have curriculums established by the providers and frequently require tuition payments by parents; whereas Georgia pre-k is a free schooling experience for students. The third group of students arrives for kindergarten, having no schooling experience because they have spent the first five years at home with a parent or guardian, a nanny, or a babysitter who did not provide academic exposure of any kind. Also, the fourth group of students participated in learning experiences on a less consistent basis through an in-home daycare. There was no established curriculum or identified learning expectations for students.

Research Questions

The research was guided by the following questions. The list of questions is not exhaustive, but was focused and limited to the needs of the study at the time of development.

Quantitative Research Questions

RQ1: Are there differences in student achievement based on their pre-k experience (while considering other co-variants like socioeconomic status, home language, parental engagement, family structure, the number of children in the home, Pre-K Delivery Model, attendance, and academic intervention)?

RQ2: Is there a significant relationship between socioeconomic status and student achievement?

RQ3: Is there a significant relationship between home language and student achievement?

RQ4: Is there a significant relationship between parental engagement and student achievement?

RQ5: Is there a significant relationship between family structure and student achievement?

RQ6: Is there a significant relationship between the number of children in the home and student achievement?

RQ7: Is there a significant relationship between pre-k delivery model and student achievement?

RQ8: Is there a significant relationship between academic interventions and student achievement?

RQ9: Is there a significant relationship between student attendance and student achievement?

Qualitative Research Question

RQ10: How do teachers address the gaps in the knowledge and skills in the pre-k experiences of their students and the relationship to their self-efficacy?

Significance of the Study

There is a need to identify if pre-k experiences positively impact students' academic performance. If there is a positive impact, school leaders may identify a need to build close collaborative relationships with the daycares in their area. By fostering a relationship with local daycares, schools can provide an opportunity to increase the alignment of daycares's end-of-year pre-k expectations to the school systems' beginning-of-year kindergarten expectations. In areas where students have not previously attended pre-kindergarten programs, there may be a need to encourage these experiences and provide early resources to families that cannot afford the cost of private programs or even state-funded programs, which have extemporaneous cost. This research is aligned to the newly reauthorized federal education act.

In a district where new schools are opened annually to meet the continual increase in the student population, this research provides critical insight into the readiness of enrolling students. As school administrators strive to maintain or increase the academic achievement of our students, looking back at where students began has great benefits.

Through this research, school leadership can analyze ways to impact student learning as early as possible. While some may focus on the gateway years where state assessments are established to determine student promotion, those who choose to analyze student performance earlier can look to the variables in this research and determine which factors align to their student population. This research supports educational improvements during this critical period where states are working to align with the newly revised federal guidelines which now have an added emphasis on early learning. The findings from this study can be revisited with each new reauthorization of ESEA.

School leaders have a limited amount of time to impact change in the lives of children. With five years most often being the maximum number of years that students spend at one level of education, administrators must choose wisely which five core teachers play a role in developing each student's academic knowledge. Also, the administrators must identify which programs and instructional focuses increase students' success. This study will support leaders through this process.

By completing this study, additional questions and pathways for additional research were uncovered. Through this study, the investigation continues into how to refine the education system currently in place. Educators, legislatures, and other key stakeholders have a need to know more about the origins of successfully educated citizens. If there is an opportunity to identify college graduates adequately prepared for careers, studying their introduction to education and identifying those who were able to outperform expectations may provide insight into how states and school systems can

recreate these successes on a larger scale. The significance of this study was to dissect the types of experiences students have initially and the impacts of these.

Summary

The dissertation focuses on the impact of kindergarten readiness on student achievement. Within the sample district, there are two activities and a resource connected to the research. Each year on the first Thursday in May, elementary schools across the district host kindergarten registration. During kindergarten registration, administrators invite parents and future students to visit their schools. Parents have an opportunity to visit kindergarten classrooms, meet kindergarten teachers, and take a tour of the school as they provide the needed information to enroll the student for the upcoming school year. Kindergarten registration is the first opportunity for reaching parents regarding kindergarten expectations.

At Title I schools within the district, funding is also provided to host a summer preview week for kindergarten students. The experience is called Kindercamp. Parents register students to attend a week of kindergarten during the summer. Students can familiarize themselves with the building, get to know kindergarten teachers, and practice basic instruction. Kindercamp has been very beneficial. While Title I schools have primarily housed Kindercamp in the past; in the coming years, there are plans to provide Kindercamp opportunities at all schools across the district. Through Kindercamp, school personnel have been able to identify students who may need additional services, cultivate relationships with parents, and expose students to skills that are prerequisites for kindergarten.

Both kindergarten registration and Kindercamp, support the stance that students prepared via a pre-k experience demonstrate the needed social, physical, and cognitive development. The parents present for kindergarten registration have a variety of experiences in which their future kindergartener may participate. Those students who register for Kindercamp quickly demonstrate their exposure to the structured expectations of the school settings. Kindercamp, though only 4-5 days, may be an experience that improves a student's long-term performance as parents quickly become aware of kindergarten expectations.

Also, the district developed a new position, the Director of Early Learning, for the 2015 school year. The district hired a principal in the district to take on the role. The Director of Early Learning's role is to identify a plan of action for bridging the gaps between pre-kindergarten and kindergarten experiences. She is a resource to enhance school-parent-community interactions. One of the director's first initiatives was to develop a screener to assess enrolling kindergartners. The screener aligns with the direction that the state is moving as they are creating an assessment for students as they arrive in kindergarten as well. The director is working to build relationships with daycares and parents and to help schools disseminate information on kindergarten prerequisite skills.

The creation of the Director of Early Learning role aligns to the predicted outcomes for the research. Students prepared for kindergarten are continuing to outperform peers through second and third grade. There will be a need to study the impact of her work with schools, parents, and community to determine if the anticipated

gaps have been minimized or even eliminated. The development of the district's kindergarten Screener will further clarify what level of readiness with which students entered. The district used the screener for the first time in May 2016. However, solid quantitative data may not be available for another two to three years.

While each presidential administration arrives with an agenda for education, the research included here is quintessential to understanding the beginnings of a student's educational experience. To impact the end of a child's academic career, we must start when his/her early learning begins. As President Barack Obama transitions out of office and President Donald Trump enters the office, the ESSA continues to support the idea that early learning is important. While changes in federal legislation may occur over the next few years, the trajectory of education is moving forward with early learning in high-quality experiences.

Students are entering elementary school from a variety of experiences. Then within the first two years, students must be instructed, and learning gaps addressed to ensure that students are meeting expectations on third grade reading assessments. According to the Annie E. Casey Foundation (2012), students who are reading below grade level are four times more likely to drop out of high school than students who are reading on-grade level in the third grade. If "one in six children who are not reading proficiently in third grade fail to graduate from high school on time," then there is possibly one student in every third grade class in America that may not graduate (Annie E. Casey Foundation, 2012, p. 6). For these students, finding ways to support them as they enter the school setting initially can make a substantial impact on their futures.

CHAPTER II

LITERATURE REVIEW

Introduction

In 2015, the Association of American Educators (Teachers Speak Out: 2014 AAE Membership Survey) published member survey results and found that 52% of participants support universal pre-k programs. If this marginal majority is indicative of the nation's stance, there is a need for further investigation to widen the divide between groups and ultimately impact change in education. Chapter II focuses on the literature surrounding the impact of pre-k instruction on student achievement. To better understand the variables that impact student achievement the following subheadings will be addressed: historical implications, teacher effectiveness, pre-kindergarten service models, family structure, socioeconomic status, home language, parental engagement, attendance, and academic interventions. The dependent variable for the study is student achievement. This chapter includes a review of the literature surrounding increasing student achievement.

Historical Implications

In 1965, the federal Head Start Program was launched to support early learning across the nation (Early Childhood Learning and Knowledge Center, 2015). However, Head Start was not created to be accessible for all. The program focused on a targeted population and therefore excluded the majority of children living above the poverty line.

> In the last half-century, U.S. preschool attendance has gone up to nearly 70% from 16%, but fourth-grade reading, science, and math scores on the National Assessment of Educational Progress (NAEP) -- the nation's report card -- have remained virtually stagnant since the early 1970s. (Dalmia & Snell, 2008, para. 5).

The previous presidential administration worked to push a "Kids-First" agenda. This agenda moves away from the limited implementation of Head Start to a universal pre-kindergarten. In December 2015, ESEA was re-authorized for four years as the Every Student Succeeds Act (ESSA) replacing the No Child Left Behind Act (Every Student Succeeds Act (ESSA) | U.S. Department of Education, 2016).

The Harlem Children's Zone (2015) serves as a model that supports children from birth through college. In their early learning experience (pre-k) program, students attend one of four facilities. The program is entitled Harlem Gems. Three of their sites are funded primarily through state funding for universal pre-k. A combination of state funds and Head Start monies fund the fourth location. According to Costa (2012), in building a permanent facility at the fourth location, the program experienced a four-year delay in opening, due to "red tape," demonstrating the challenges in using special funds. In February of 2011, the New America Foundation (cited in Guernsey, 2011) published 12 recommendations for the federal government regarding early education. In their first recommendation, they encouraged legislators to reframe public education to include the pre-k experience. Guernsey (2011) stated that ESEA did not currently specify that pre-k was indeed a part of all federal and state funded educational initiatives including

"Improving Teacher Quality State Grants (Title II), Troops to Teachers, and the Teacher Incentive Fund" (p. 1). Clarifying the inclusion of pre-k would be pivotal in funding allocations everywhere. A second recommendation was to provide incentives similar to Race to the Top (RT^3) to "states with effective early learning strategies" (Guernsey, 2011, p. 1). The incentive system would encourage school systems to build relationships with early childhood programs that are adequately preparing students before they enter kindergarten. ESSA addresses each of these recommendations.

Like Head Start funds, state funds have specific requirements "for a wide range of basic functions, including student evaluations, program financing, and professional development" (Costa, 2012, p. 2). According to Armor (2014b), in 2013, President Barack Obama called for "high-quality preschool for all" (p. 1). The CATO Institute suggests that researchers conduct additional research on the long term impact of preschool on students' academic success. While several studies have occured over the last 30 years, Armor (2014a) identified areas of weakness in each of the major studies and their evaluations. He divided the studies completed on the significance of having a focused preschool experience into two groups. Group one would include studies with significant gains that are not similar in design to the current initiatives for universal pre-k. The other group aligns to the recommended design for universal pre-k; however, the initial limitations of the program's impact dissolve by the end of the first year of regular school leaving no distinctions among students. A more recent analysis of the Tulsa and Chicago preschool programs suggest that the traditional format of preschool can increase student achievement when the program is highy effective. High quality programs include

"program standards, attention to teacher qualifications and compensation, additional ongoing on-site quality supports" (Yoshikawa et al., 2013, p. 7).

The amount of funds allocated to pre-kindergarten programs varies from state to state; however in 2014-2015, Georgia ranked sixth ($314,300,032) for total state pre-k funding (Atchison & Workman, 2015). California's 2014-2015 total pre-k budget was $903,500,000, followed by Texas with $808,500,000 allocated to funding pre-k. New Jersey ($653,843,000), New York ($410,034,734), and Florida ($396,065,224) all have hefty state pre-k budgets.

Teacher Efficacy

The state of Georgia has redesigned the process for determining teacher effectiveness. The previous system did not take into account the multi-faceted responsibility that teachers must encompass to be effective. The Georgia Department of Education (2011) determined that effective teachers must be capable of meeting 10 standards. The 10 standards are professional knowledge, instructional planning, instructional strategies, differentiated learning, assessment strategies, assessment uses, positive learning environment, academically challenging environment, professionalism, and communication. The instructional practices of teachers and how they present the curriculum largely impacts the data. Within a single school, teachers' instructional practices vary from room to room based on the needs of the students. Consideration for the variations in the level of instruction from school to school and classroom to classroom must be made in the research as well.

According to Hess, Jones, Carlock, and Walkup (2009), "Bloom's Taxonomy categorizes the cognitive skills required of the brain when faced with a new task" (p. 4), therefore describing the type of thinking processes necessary to answer a question. The Depth of Knowledge (DOK) model, on the other hand, relates more closely to the depth of content understanding and scope of a learning activity. This model is one "which manifests in the skills required to complete the task from inception to finale (e.g., planning, researching, drawing conclusions)" (Hess et al., 2009, p. 4).

The research examined the relationship between Bloom's Taxanomy and Webb's Depth of Knowledge and how they can collectively impact classroom instruction. Simply stated, Bloom's Taxonomy addresses thinking while Webb's DOK describes performance. Both are needed indicators when creating or evaluating rigor. To adequately prepare students for the new more rigorous standards taught and assessments taken in third grade, "teachers need to develop the ability to design instruction and create units of curriculum and classroom assessments for a greater range of cognitive demand" (Hess et al., 2009, p. 4).

Two standards directly relate to assessment. School administrators evaluate teachers on the strategies they use to develop assessments, as well as how they use the assessments they develop. There are implications that the teachers' effectiveness will impact the success of students in their classes based on their personal use and level of competence in developing and implementing assessments.

Zepeda (2004) examined the implementation of learning communities. In this study, a Midwestern elementary school changed leadership. As a new principal

transitioned into the building, she initiated learning communities and peer supervision. Teachers began meeting in teams to review data and teacher practices. They also participated in peer observations. Teachers would visit each other and provide feedback on the instruction that they saw during the lesson. The peer observations strengthened the demonstrating teacher and also allowed the observer to reflect on the practices and strategies he/she used in his/her classroom. The use of peer-mediated supervision became a component of improving teacher effectiveness. Peer-mediated supervision included "inquiry, generative problem solving, dialogue, and reflection" (Zepeda, 2004, p. 146). Instituting conferences before and after observations also increased teacher reflection. Teachers met in a variety of critical groups based on grade level, observation, or instructional concerns. One way the principal supported the building of learning communities was by starting faculty meetings with critical conversations, "Talk about Teaching" (Zepeda, 2004, p. 148). Teachers took advantage of the time and began in-depth discussions that extended the time of school-wide faculty meeting. To honor the teachers' time, the principal suggested holding the instructional peer discussions at the end of the meeting. Teachers responded that they wanted to continue starting the meetings with their conversations with peers and that they would need additional time to follow-up on their conversation. Faculty meetings went from one hour to one hour and thirty minutes or longer (Zepeda, 2004). The principal provided needed resources for teachers to explore new ideas and created a school culture where teacher expertise took precedence so that teachers were empowered to take risks towards improvement.

The researcher interviewed teachers and administrators over a two-year period. Initially, teachers and leaders struggled with the changes taking place. The principal questioned how to be supportive without providing input, and she felt that her feedback would cause teachers to comply with her suggestions, while not sharing her ideas would potentially create a staff perception that she was distant and uninvolved in the process. Over the course of the study, she was able to find a balance. After a year of building relationships and providing teachers with the tools to collaborate and make instructional decisions, the principal believed the use of peer supervision led to the development of learning communities. Teachers shared ways they had improved instructionally through the collaboration of learning communities. They commented on feeling empowered. Teachers were able to connect with others who had similar beliefs and to find others who would value and challenge their ideas (Zepeda, 2004).

Professional communities establish norms and procedures to help meetings stay focused and respectful of their time. As stated by Glickman, Gordon, Ross-Gordon, and Glickman (2014) in *SuperVision and Instructional Leadership,* "professional learning that increases educator effectiveness" includes learning communities, led by skillful leaders, aligned to performance and achievement (p. 284). In the professional community, teachers are empowered to be lifelong learners as they work together and participate in discussions. The quality of instruction changes as students and society change. A professional learning community focuses on student achievement and re-evaluates its effectiveness periodically.

According to George (2001), book studies are an "effective approach to literacy staff development" (p. 6). Debbie Miller (2008) explained that teachers become teachers with intention, "thoughtful, reflective people who are conscious of the decisions they make," (p. 4). Teachers read independently, discuss with peers, and implement ideas. "Adult learning, and specifically teacher learning, must be grounded and connected directly in real life experience" (Walpole & Beauchat, 2008, p. 1).

The article addresses the supervision of student teachers. The authors research the relationship between student teachers and their clinical supervisors. They anticipate that the research data and results apply to new teachers. The first time teachers receive feedback similar to that of instructional supervision occurs during the student teaching process (Range, Duncan, & Hvidston, 2013). Because of the similarity of limited experiences, novice teachers are believed to be similar to student teachers in how they perceive instructional supervision.

Teachers need ample opportunities to grow and develop their level of proficiency according to all 10 areas of the Teacher Keys of Effectiveness System. Providing teachers with clear feedback during observations can build an instructional leader's capacity, which will also enhance the caliber of instruction kindergarten students are receiving within the building. As an instructional leader, in addition to providing feedback through observation, opportunities for collaborative planning and staff development will impact teacher effectiveness. According to Blasé and Blasé (2004), "professional development was the most influential instructional leadership behavior at both the elementary and high

school level" (p. 12). The research provided insight into how to address possible concerns that could arise during the research process.

Service Models

During the early childhood educational experience, students may attend a state funded structured program, a private structured program, or a home learning environment. While pre-k may not, in fact, have a lasting impact on students learning, the data suggest that variance in the models of early learning support can have varying impact on student readiness for kindergarten. Models with the most significant relationship to student achievement included extremely low student to teacher ratios (one to three or one to five) and an ongoing in-home support component. In 1972, the Abecedarian Project was implemented to study the impact of intensive early learning support on student achievement (Campbell et al., 2012). In 2012, researchers collected updated information regarding educational, economic, and social-emotional domains. By age 30, students who had attended the Abecedarian Project had more years of education than individuals in the control group and they were four times more likely to be college graduates or higher (Campbell et al., 2012). The 23.5% high school graduation rate was comparable to the national average (24%). However, with 98% of the Abecedarian participants being African American, they significantly outperformed African Americans (14%) nationally. Students received "intensive care and education for up to 40 hours a week for 50 weeks" (Armor, 2014b, p. 3). For this reason, there is need to question whether or not the "high quality preschool for all" will yield the same results, when the programs are so drastically different (Armor, 2014, p. 3).

The Perry Preschool program from the mid-1960s had some relative commonalities to the Abecedarian program including similar sample size (123 to 111) and predominately African-American participants. The cost-benefit analysis of Perry Preschool was completed by James Heckman and was "cited extensively by the White House in support of [President] Obama['s] proposal" (Armor, 2014b, p. 3). This program also has two major differences from the current structure for universal pre-k including: "two years of preschool coupled with weekly visits with the parent" and very small student teacher ratios 1:5 or 6 (Armor, 2014b, p. 3). Because of differences in the length of the program, the intensive parental support component, and small class size, this program may be "uncomparable to the type of preschool programs endorsed by President Obama and other political leaders" (Armor, 2014b, p. 3). When identifying programs with service models very similar to current models of "high quality preschool" studies lack "long-term effects of preschool" (Armor, 2014b, p.3).

Like the Perry Preschool program, the Chicago Child-Parent Center (CPC) was studied closely in the development on ESEA. Dr. Lorraine Sullivan developed the Chicago CPC in 1967 with four school sites. The Chicago Public School District accepted the program, and the district became the first to use Title I funds to support preschool education (Child Parent Center, 2016). The CPC focused on pre-k through third grade education. The program, second to Head Start in being a federally funded program, was the first federally funded program to target pre-k-3rd grade education. The CPC design looks more like current pre-k across the nation, except the program has several critical components that have been found to make a significant impact on student

achievement. The program follows the Creative Curriculum, requires weekly contracted parent involvement, and has a collaborative team that supports the program. The collaborative team includes three positions: a head teacher to support teacher instruction, a parent resource teacher to support parent involvement, and a school community representative who completes home visits and aids parents in finding needed resources in the community. As the program continues to expand into other Midwest states, additional research continues. In 2014, Reynolds et al. (2014) found that there were benefits in presenting the program as a full-day experience instead of a part-day. Participants who attended full day had higher socio-emotional, language, math, physical health, and total scores and better attendance than their part day peers (Reynolds et al., 2014). Zhao and Modarresi (2013) found that in the Montgomery County Public schools, full day Head Start students outperformed their peers on the mathematics portion of TerraNova.

Student Achievement

In 2008, Dalmia and Snell (2008) cited presidential candidate Mr. Barack Obama's willingness to increase funding for early childhood education as concerning. The coauthors used NAEP's data to substantiate their position further. While enrollment in early learning programs has increased "to nearly 70% from 16%," no improvements in the nation's student achievement data has occurred (Dalmia & Snell, 2008, para. 5). More specific to this study, while Georgia has provided universal pre-k for over a decade when NAEP's data is analyzed the state has had no significant improvements in its fourth grade reading scores. There are questions regarding whether or not there is a long term impact from the pre-k experiences. While students may be further ahead during the kindergarten

year, there is a need to identify data that shows these gains are lasting and significant. In a homogenous country such as Finland, students are not required to enter school until age 7, and preschool is optional beginning at age 6 years old. If a country such as Finland consistently exceeds universal standards without structured early learning beginning at age 3-4, can our students be as successful if they too do not enter school until age seven?

In Tennessee, the implementation of a voluntary pre-kindergarten provides additional insight into the immediate achievement of students. In 2005, Tennessee's targeted voluntary pre-k program began with state funding. The program's target population was students "eligible for free or reduced-price lunch" (Grehan et al., 2011, p. 2). While there has been a steady increase in state funding allocated to the pre-k program, partners like Head Start and other "collaborating partners" have been allowed to "offer seats through the PreK program" (Grehan et al., 2011, p. i). There has been increased participation by eligible students since inception "170 percent, from 6,943 students in 2005/6 to 18,746 students" in 2008 (Grehan et al., 2011, p. 5). Collaborative partner classrooms housed 21% of the pre-k experiences. Both minority and special education student participation increased significantly. The state implemented specific guidelines to address concerns about the quality of the pre-k program and to increase the quality of the experience. These guidelines include: "maximum class size of 20 students, at least one licensed teacher certified in early childhood education per classroom, and at least 5.5 hours of quality instruction each day" (Grehan et al., 2011, p. 2). In analyzing the effectiveness of the program, student achievement data has been collected over time beginning as early 2007. The research group determined that students who participated

in pre-k outperformed peers. By 2008, an additional analysis was completed and determined that pre-k students outperformed peers on standardized testing. There was evidence that these differences were observable through second grade. During the fourth round of effectiveness reviews in 2010, the research group determined that the impact of pre-k was limited primarily to the K-1 learning experiences. The questions raised included how students are being compared? Are students being compared to students of the same socioeconomic status, with the same/similar home environments including parent support?

McMillan and Turner (2014) completed a qualitative study that investigated student perceptions of assessment. The authors identified Peterson and Irving's (2008) qualitative study of high school students as the model for their work. McMillan and Turner (2014) developed their study to acquire a "deeper understanding of the perceptions of students toward assessment as a basis for promoting appropriate assessment practices that will enhance student learning and motivation" (p. 2). As the number of assessments in education has been perceived to have multiplied, the authors questioned how the increase has impacted students.

Through their research, they determined that the participants in their study did not experience an increase in the number of assessments. The authors stated that because students are currently involved in the assessments, they do not necessarily have the prior knowledge of what assessment in elementary and middle school included 10 years ago. The authors completed a series of interviews with 44 elementary school students and 19

middle school students from five schools. Two of the schools were located in rural areas, while the other three were suburban.

The research was conducted with elementary and middle school students using one-on-one interviews. Students answered a series of questions along with additional follow-up questions. Initially, researchers interviewed three students, and their responses were used to create a coding system that was used to analyze and sort student responses during the remaining interviews. The coding system included 32 codes to categorize student responses. The article addresses the research findings regarding the significant role effort was perceived by the students to have on performance.

MacMillan and Turner (2014) found that students "may not 'like' the tests and other assessments, but they think they are necessary" (p. 14). Students felt that tests provided them with information on whether they had learned or not. Students did not question the validity of assessments during the survey. Students focused their responses on their performance and effort. The authors identified a cyclical relationship between "the effect of assessment experiences" and "the relatively stable perceptions that students develop over time" (McMillan & Turner, 2014, p. 14)**.**

Three major themes of the article were: students perceived assessments to be positive; students related their performance on assessments more often to effort than ability; and students preferred short quizzes to cumulative tests. "From the perspective of students, assessments of all types, in all subjects, [are] viewed positively as a valid source of information about learning," according to the student sample surveyed (McMillan & Turner, 2014, p. 11). Whether or not students liked assessments, they believed evaluation

was a necessary part of their school experience. They valued to assessments because they were “keenly interested in their performance” and “wanted to know what they missed” (McMillan & Turner, 2014, p. 28).

The second theme of the article focused on student effort. The majority of the students in the sample attributed their success on an assessment to how much effort they put forth. Many of them defined effort as studying. In essence, they perceived that if they had studied more, they would have done better on a test. According to the article, students “viewed effort as a controllable dimension,” and they believed that what they did in the area of studying impacted their success on their tests (McMillan & Turner, 2014, p. 30).

The third theme of the article related to “the proximity of learning to testing” for students (McMillan & Turner, 2014, p. 20). Because of the length of quizzes and the short time frame between teaching and assessing, students felt that quizzes were the easiest assessments. County benchmarks and state assessments were described as more difficult because there were more questions to answers, and the information required recall from long spans of time.

The process for analyzing student responses was a strength. By using the first three students to determine a coding system, the authors were able to identify common themes in the student responses. By having the coding system before completing the majority of the surveys created a streamlined system for reviewing student responses. The process of interviewing students and recording the data was succinct. Students spent

20-30 minutes providing responses in their words. The authors included student quotes throughout the work to support the trends found.

A weakness of the research included several unexplored follow-up questions. Within the article, the authors mentioned more than once that there was little mentioning by students of formative assessment. As a researcher, one cannot conclude that this means these students were in classrooms that had not implemented formative instructional practices. There was a need to determine if students were aware of the practices and if they occurred in these classrooms. After students had completed their responses, the results revealed questions about formative assessment, so there was not an opportunity for the researcher to further investigate this issue.

The researchers stated that they "interviewed a high number of students who were relatively high achievers" (McMillan & Turner, 2014, p. 26). While there were students in the sample that did not achieve high scores or grades, there was the potential that the survey results may have been skewed towards one group because the sampling of lower performing students was not large enough. To effectively generalize some of the key trends in this research, there is a need to acknowledge the lack of balance and variety within the sample in this area.

The theme of feedback was very limited in this study. Because researchers did not identify that the information on the amount of and types of feedback provided to students was limited, this is an area to continue the research. According to MacMillan and Turner (2014), the "low number of coded responses [on feedback] suggested that perhaps we did

not stress and probe sufficiently" (p. 24). Students stated that they wanted to know why their answers were wrong.

Student Attendance

Student attendance can significantly impact student achievement. Students need to be present in school consistently to increase their likelihood of success (Ready, 2010). Students must be present for critical instruction presented daily to be successful. Students who are chronically tardy, absent, or check out early are losing essential learning time. Tardy students miss the opportunity to perform daily routines with the group and settle in for the instruction that begins almost instantly after breakfast in most schools. These students are rushing to catch up and may carry this feeling of being behind through the remainder of the day.

Students who are regularly signed out before the dismissal of school miss the opportunity to participate in concluding activities. They may miss finding the solution to a math problem or completing a science experiment. Students may miss homework or review assignments that occur during this time as well.

Students who miss substantial days lose large portions of instruction each day that they are absent. While teachers can provide make-up opportunities and instruction, there are authentic things that occur during the initial lesson that the make-up lesson cannot recreate. For high achievers or gifted and talented students, these missing segments can impact their performance, but if they are motivated, they can plug the holes in their learning independently. However, the average or struggling learners will be unable to close the gaps in their learning experiences successfully. They need the guidance of the

teacher to clear up misconceptions as they develop and provide ample modeling opportunities.

Spradlin, Cierniak, Shi, and Chen (2012) investigated student attendance in Indiana and found correlations between student achievement and student attendance rates. According to their research, third graders "who were chronically absent scored nearly 50 scale score points lower on the Math portion" of the Indiana state assessment (Spradlin et al., 2012, p. 1). These test scores were only one indication of the numerous sources of research to support the idea that attendance impacts student learning. In a report on absenteeism, Balfanz and Byrnes (2012) stated that, "chronic absence in kindergarten was associated with lower academic performance in first grade" (p. 4). For students who did not attend a pre-school program, before kindergarten, the importance of consistently attending may not be a priority. Students who most frequently miss the pre-k experience live in low income families, and they are the ones "who benefit the most from being in school every day" (Balfanz & Byrnes, 2012, p. 6).

While national, and even state, attendance data are extremely limited, Georgia is one of about six states that collects data on student attendance. According to Balfanz and Byrnes (2012), "only 53 percent of students miss five or fewer days of school" (p. 7), which is detrimental when thinking about the inverse data. Forty-seven percent of students have missed six or more days of school. That means that just slightly less than half of students have chronic or significant attendance issues. Kindergarten students struggle the most with the daily requirement of attending school. In fifth grade, students tend to be absent because of illnesses like strep or the flu, whereas kindergartners will

stay out of school because of a runny nose, cough, or common cold. Students whose socioeconomic status (SES) was low, and they were "chronic[ally] absent in kindergarten had the lowest levels of achievement in fifth grade" (Chang & Romero, 2008, p. 3). By addressing student attendance early, schools may have long term positive gains in students' academic performance.

Georgia's former State Superintendent Barge addressed the potential impact of absenteeism on state assessment scores. He cited that 10,000 more students on the CRCT Reading Test and over 30,000 more students on the CRCT Mathematics Test would have been more likely to pass if they had increased attendance by 3%, just five additional days (Georgia Department of Education, 2011). When identifying the key areas of determining school achievement at the state and district level, attendance is part of a school's CCRPI score. Districts across the state expect schools to have taken multiple steps to encourage student attendance across grade levels, classrooms, and individually. Improving student attendance can improve student achievement within any classroom where the teacher provides effective instruction. If all students take advantage of learning opportunities when initially given by being in attendance at school, their learning will advance, and student achievement will improve.

Academic Intervention

This research reviews the impacts of two distinct interventions and any correlations to student achievement. The academic interventions include English to Speakers of Other Languages (ESOL) services and Early Intervention Program support. An Early Intervention Program (EIP) is a state initiated support for students who struggle

in reading and or math. In grades K-3, classroom teachers identify students using state designed rubrics. In grades 4 and 5, students' state assessment scores determine eligibility for EIP support. Students classified as EIP are served through a push-in of an additional certified teacher to support instruction, an augmented model, pull out model, and reduced class size model (Georgia Department of Education, 2015). The purpose of EIP support is to aid students who perform below grade level expectations. Students are provided with support in reading and math to decrease the achievement gap and increase students' potential to meet grade level standards (Humble, 2016).

English Language (EL) teachers provide ESOL support to students whose first language is a language other than English. EL teachers assess students for their English proficiency using the ACCESS assessment (WIDA,[1] 2016). This assessment is administered annually across the state. Teachers classify EL students in four ways based on their ACCESS score. Scores below 5 identify the student as in need of language support. Within a school, students can be considered *Direct* serve students, *Consultative*, *Reclassified*, and *Assessment Only*. English Language (EL) support students receive services through several models including push-in, cluster classes, and pull-out support. For *Consultative* students, the classroom teacher provides the EL student with language

1. In 2002, an EAG grant provided initial funding for the organization that would become WIDA. Three states were involved in the grant: Wisconsin (WI), Delaware (D), and Arkansas (A), so the acronym WIDA was chosen for the name. At the last minute, however, Arkansas dropped out, and World-class Instructional Design and Assessment was created to fit the acronym. As WIDA grew, however, the original name no longer adequately described its mission. Recently, WIDA decided to stop using the acronym definition. Now WIDA just means WIDA. Retrieved from www.wida.us/aboutus/mission.aspx

support by collaborating with an EL teachers and discussing the students' needs and ways to support them without the EL teacher being directly involved. *Direct* serve students are provided English support by an ESOL endorsed teacher. *Assessment Only* students are those students who qualify for additional language support. However, their parents select to opt out of this support opportunity. These students continue to participate in ACCESS each year until they have acquired a proficient language score to exit ESOL support (WIDA, 2016). *Reclassified* is the fourth category. *Reclassified* students are those students who are found to be eligible for another support service like Special Education, and their language is determined to be limited by their disability. Reclassification typically only occurs when a student is transitioning into a special education self-contained setting with limited mental capacity. Students who score a 5 or above are exited from ESOL and identified as Monitored students for the next two academic school years. These students no longer participate in ACCESS or received language support from an EL teacher. *Monitored* students are observed during the two-year period to ensure that they are progressing as expected. After two years of monitoring, these students are no longer identified as EL students.

Response to Intervention (RTI) serves as a system of supporting students through a tiered invention plan. All students fall into the bottom tier of the pyramid. Tier I Interventions represent daily instruction for all students. For those students who do not respond to this level of intervention, they move to the next tier of intervention. Tier II includes fewer students for interventions. These students are provided with more specific interventions that include ongoing data collection. The progress monitoring of Tier II is

used to determine how well a student is responding to a small group, more targeted instruction. For students, still not making adequate progress, interventions intensify, and the student moves to Tier III where the number of students in this tier is smaller than the two previous tiers. With the additional support offered in Tier III, Student Support Teams (SST) can determine if the student could need more specific support through Tier IV Interventions. Both ESOL and EIP are considered interventions on the RTI pyramid (see Figure 1).

Figure 1. Response to Intervention: The Georgia Student Achievement Pyramid of Intervention.

ESOL and EIP are student-centered interventions developed to improve student achievement. Intervention programs support students identified as working below grade

level or having academic gaps. These interventions may be sufficient for closing the gap with which students enter elementary school without previous school experience. The research examines when these interventions are in place what correlation, if any, they have to supporting students that did not attend preschool.

Parental Engagement

According to Ralph B. McNeal, Jr. (2014), "Parent involvement is any action taken by a parent that can theoretically be expected to improve student performance or behavior" and academic achievement (p. 564). The presence and involvement of parents in the school have a direct impact on student achievement. Current literature suggests "that children whose parents are involved with their schools do better academically, have fewer absences, are more willing to do their homework, have higher graduation rates, and feel more competent about their abilities" (Stetson, Stetson, Sinclair, & Nix, 2012, p. 23). Miedel and Reynolds (1999, cited in Brown & Lee, 2015) stated, "when families are involved in their children's early childhood education, children experience greater success once they enter elementary school" (p. 84) which implies that adequate parent support can make a difference for students whether or not they attended pre-k.

According to Vaden-Kiernan and McManus (2005, cited in Brown & Lee, 2015), "Studies report that children whose parents are involved in their schooling are more likely to earn high grades and enjoy school" (p. 84) because their learning is supported and is a part of their family dynamics. Students who spend time with parents involved in their learning can establish long term goals to attend college, plan careers, and more. Because learning is a component of the family's core values, students strive to

demonstrate the ideals created within the family. McNeal (1999, cited in Brown & Lee, 2015) explained these students have a higher "motivation to achieve" (p. 84).

While parents avoid involvement for a variety of reasons including being too busy, "feeling negative about their [personal] educational experiences" and differences between home language and culture and school language and culture, when they are involved students benefit academically (Stetson et al., 2012, p. 24). McNeal (2014) perhaps sums up the whole of parental engagement with the statement, "Some elements of parent involvement affect some types of achievement for some students some of the time" (p.565). There is evidence that parents impact students, but different types of engagement return different impacts on student learning. Types of parental involvement include the parent "with the child, school personnel, or other parents" (McNeal, 2014, p. 565). "Because not all strategies of involvement are likely to yield the same result," researchers separate the different engagement strategies and study their impact individually (McNeal, 2014, p. 565).

Some researchers have categorized parental involvement loosely into two categories of parent-student involvement and parent-school involvement. Parent-school involvement includes experiences where the parents are present in the school: volunteering, attending workshops, and conferring with the teacher about the child's progress. An example of parent-student involvement is monitoring. Through monitoring, parents observe students completing homework, make sure they turn in projects, are dressed and clean for school, and attend regularly. Monitoring occurs when "a parent is actively engaged in their child's life, knows their child's whereabouts, and makes sure

their child's homework is completed" (McNeal, 2014, p. 566). Parent-student involvement can also occur through parent-child discussion. These conversations focus on discussing school with the child. Discussions are very effective. They give students the idea that education is important because it is a part of their daily conversation. When parents invest time in discussing school with their child, the child's attitude towards school is impacted, which should also affect student achievement (McNeal, 2014). For this reason, in the parent survey during this research, parents were asked to identify the type of engagement and the level of engagement they have with their child's learning.

Family Structure

Mulligan, McCarroll, Flanagan, and Potter (2014) shared data regarding student achievement and the family structure. In the study, students from two-parent households had higher scores "than students in single-parent and other parent type households" (Mulligan, 2014, p. 2). In a two-parent household, adults can share the financial responsibilities and family needs, whereas, in a single-parent home, the individual must be responsible for finances and the needs of the children. The Princeton University, Fragile Families and Child Wellbeing Studies also support the stance that married, two-parent households yield more children that are healthy and productive than single-parent homes or cohabitating two parent homes (Brown, 2014).

In Fonteboa's (2012) dissertation, the findings were that there are no significant differences in student achievement because of family structure. Fonteboa used the Georgia High School Graduation Test to collect data. She stated that there was a need for further clarification for students and parents regarding the definition of a blended family.

She defined a blended family as "two parents, one male and one female, cohabitating in a marital relationship; however, one or more of the parents might be a stepparent or otherwise not a biological parent of the child" (Fonteboa, 2012, p. 86). She thought that some students might have considered this to be a traditional family. With opposing research available for family structure, there is a possibility that family structure has an impact on student learning that can be diminished by other factors.

Number of Dependents in the Home

This study gave consideration to family size, specifically the number of dependents in the home. While limited research was available in this area, the number of children being cared for in the home could create variation in a student's achievement. A study completed in Canada by Ma in 2001 analyzed math and science scores for students in relation to demographic information including family size. The analysis found that students' achievement scores increased by four points in math and six points in science if the family size decreased by one person. While these indicate increased student achievement, the study determined that there was minimal impact when considering family size (Ma, 2001).

Hatzitheologou's (1997) study on reading achievement considered birth order and family size in Greece for second and sixth grade students. The research suggested that there are limited differences in the achievement scores of second graders when comparing birth order (first born, second born, or later born). In sixth graders, however, "the first-born children and those who come from small families have better language patterns in comparison with those second- and later-born children" (Hatzitheologou,

1997, p. 18). As the size of the family increases, a reduction in the learning support a child receives at home may occur. For some families, the quality of parent engagement reduces with the addition of each new child, which may impact student achievement.

Home Language

According to the Pew Hispanic Center, the Hispanic population increased 300% from 108,922 to 435,227 in 10 years in the state of Georgia (Kochhar, Suro, & Tafoya, 2005). "When a student moves from one country to another she or he may encounter differences in attitudes, customs, or ways of doing things," and one of these differences may include language (Broomes, 2013, p. 5). When given an assessment one-on-one by certified assessors, "students with a primary home language of English scored higher in reading, math, and science than students with a non-English primary home language and students with multiple home languages" (Mulligan et al., 2014, p. 2).

As students enter a new country with a new language, they must first acquire the conversational language to express their wants and needs before they can begin to build their content vocabulary. For these students, language is the factor creating the gap in their academic achievement. The students are not incapable of achieving, but first, they must begin mastering the language behind the knowledge. In an oversimplified comparison, a 17-year old who has never been behind the wheel of a car is not necessarily incapable of driving. The child has not had the experience of getting behind the wheel. He or she must first learn how to turn on the vehicle, as is true for students with language. The English learner must first be taught how to ignite their learning with the new language.

Socioeconomic Status

While many have used the phrase "free and reduced lunch is how they eat, not how they learn," there may be some statistical commonalities between socioeconomic status and student achievement. Students living above the poverty line consistently outperform their peers. The higher the household income is above the poverty level, the higher students score. In the Department of Education's continuation of a longitudinal study of kindergarten students, "households with incomes at or above 200 percent of the federal poverty level," were the highest scoring group (Mulligan et al., 2014, p. 2). In contrast to the significant achievement for students well above the poverty line, "scores were lowest for students in households with incomes below the federal" (Mulligan et al., 2014, p. 2). When examining the large gaps in student achievement based on the three socioeconomic groups identified in the study, the study identified the percentage of students living below the poverty line. "Approximately 22 percent lived in households with incomes below the federal poverty level in their kindergarten year" (Mulligan et al., 2014, p. 2). While there is no direct evidence that living in poverty prohibits a student from learning, a lack of exposure and experience may well be the foundation of any achievement gap, especially the gaps presented by students in poverty.

Mulligan et al. (2014) shared the educational level of parents in the study as well. At one end of the spectrum "about 8 percent had parents whose highest level of education was less than a high school diploma," while "about 37 percent had parents whose highest level of education was a bachelor's degree or higher" (p. 2). A study completed in Nigeria, where researchers found "students from high SES parents performed better than

students from low SES parents" (Alordiah, Akpadaka, & Oviogbodu, 2015, p. 134). Researchers found that students whose parents had a higher socioeconomic status performed on average 3 points above the median math score, while students with lower economic status performed .64 points below the median score of 25. When students have less access to resources and parent support, these differences in scores can be expected.

Summary

This chapter focused on a review of the literature regarding the importance of kindergarten readiness. There was also an examination of research surrounding the study's variables such as family size, home language, school interventions, socio-economic status, and parent engagement. Studies suggest that participating in a pre-k program had a significant impact on students through adulthood. Other research suggests that the impact was minimal.

Projects like the Abecedarian maintain small learning clusters for extended periods and provided supports that current pre-kindergarten structures lack (Campbell et al., 2012). States across the nation are investing large portions of the budget into pre-kindergarten education because they perceive that there is a need for these preparation programs before students enter the public school setting.

Through the review of the literature, there are indications that other variables like whether or not the student is a second language learner, teacher efficacy, and family may play an even more significant role in students' academic achievement. There is ample literature that support an additional investigation into the impact pre-kindergarten experience and other factors may have on student achievement.

CHAPTER III

THEORETICAL FRAMEWORK

This research began with a constructivist foundation. The theory of constructivism supported the idea of creating national standards and preparing students for college and careers. Piaget's (2000, cited in Piaget, Inhelder, & Weaver, 2000) initial concepts of constructivism can be intertwined with the ideas of Bruner (1966) regarding incremental instruction being provided to students. Figure 2 shows the connectedness of the constructivist theorists' views.

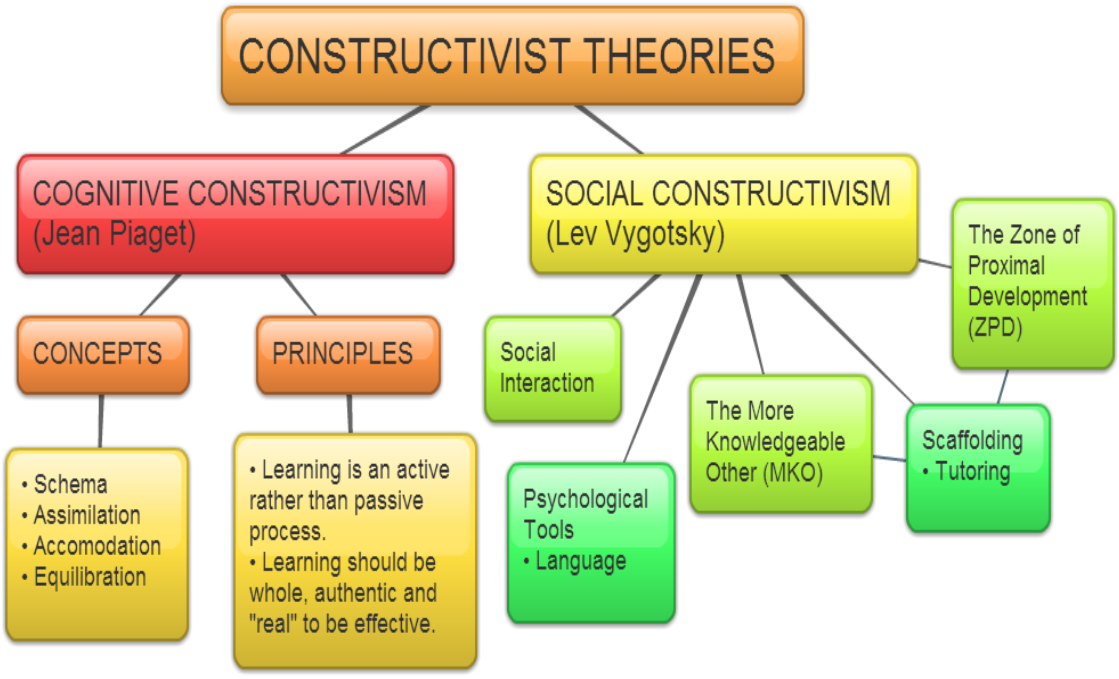

Figure 2. Concept Map of Constructivist Theories of Learning.

There is evidence of Bruner's (1966) influence on the Common Core standards in that certain concepts will be taught in different grade levels and become increasingly more in-depth at each level. This idea of preparing students long term, emphasizes that the effectiveness of kindergarten through second grade teachers can directly impact the performance of a third grader. In conjunction with this concept, the research will stretch the learning experience of students to include the pre-kindergarten exposure. When considering Bruner (1966), the idea that experiences shape student learning correlates with the level of rigor in academic instruction that is required to implement the nation's Common Core standards successfully. In Georgia, the Common Core Standards align to the Georgia Standards for Excellence (GSE) (Georgia Standards, 2015b). The new standards indicate expectations that students can take concepts and make new connections based on the formulae or relationships they developed when learning about other ideas. This constructivist concept aligns with the relational learning of students, pre-k through 12th grade in all areas, especially language arts and math. Bruner (1966) believed that students should be introduced to concepts and allowed to explore to increase their depth of understanding and ability to use the information (Consortium of Universities for Research in Earthquake Engineering [CUREE], 2015).

With the implementation of a new state assessment, Georgia Milestones requires all students in grades 3-8 to compare two parallel texts and defend their thinking. If students have been instructed effectively in how to compare texts, they should be able to apply this higher level skill on the new assessment. The instruction that prepares students for this caliber of performance does not begin in the third grade. The instruction must

start even before students enter kindergarten. The state's new assessment provides data that is used to determine whether or not schools are effectively preparing students for college or careers. This assessment pushes students beyond the two foundational levels of Bloom's Taxonomy to application, analysis, evaluation, and creation. Figure 3 is a diagram of Bloom's Taxonomy.

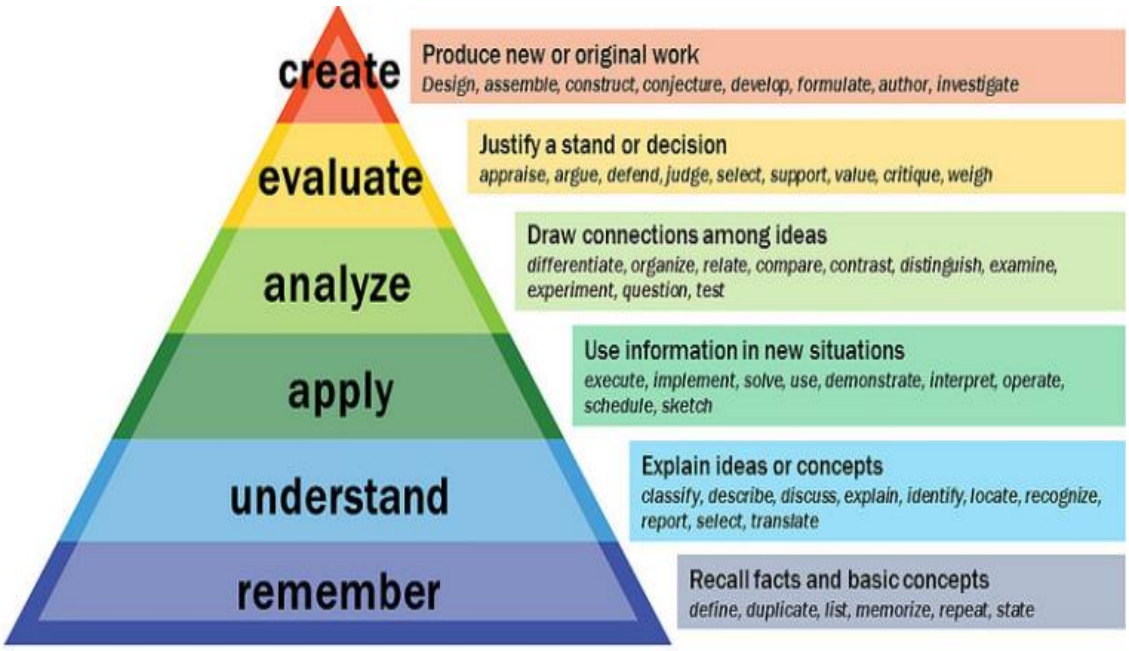

Figure 3. Blooms' Taxonomy.

To adequately prepare students, teachers must provide application and analysis opportunities through authentic learning to students. Teachers must move away from "sit and get" instruction towards empowering students to become analytical linguist or mathematician at their developmental level. This advancement of learning correlates to the future America. The workforce is no longer limited to repetitive tasks but now seeks revolutionary thinkers. The research utilized a quantitative approach to analyze the impact of pre-kindergarten experience on students in the early elementary years.

Bandura (2012) supported the idea that modeling and cognitive processing facilitates development. As children seek models to imitate, having strong academic models before kindergarten may play an important role in allowing students to solidify who they are earlier academically. Through early learning in the pre-k setting, students may observe how to respond to challenges and perseverance. Piaget (2000, cited in Piaget, Inhelder, & Weaver, 2000) would agree that all students are shaped by the experiences that surround them. The ideologies of Brunner (1966) would lead researchers to believe that structured beginnings can be powerfully beneficial to students. Having the time to begin building foundations in pre-k provides students with clear schema and misconceptions can be eliminated and clarified earlier. Gloria Ladson-Billings (1995) referenced culturally relevant education as being pivotal in student achievement. She suggested that culturally relevant education includes three areas: "(a) Students must experience academic success; (b) students must develop and/or maintain cultural competence; and (c) students must develop a critical consciousness through which they challenge the status quo of the current social order" (Ladson-Billings, 1995, p. 160). She simply encouraged educators to examine the student and build on the previous experiences. Educators must allow students to construct new knowledge based on their personal schema, culture, and life experiences (McLeod, 2012). In a study such as this one, considering the constructs that students have developed previously instead of the lack of academic schema may become pivotal in closing learning gaps and increasing student achievement. There is a correlation between students constructing their knowledge through curiosity and experiences and a teacher's culturally responsive

pedagogy. Darling-Hammond's (1998) work focused on the instructional capacity of teachers. She suggested that teacher preparation and teacher instructional practices significantly impact student achievement. In parallel with constructivism, she supported student-centered instruction by targeting teacher development. Collaborative planning and professional learning communities are critical components of adequately preparing teachers. "A skillful teacher figures out what students know and believe about a topic," demonstrating that constructivism births effective teaching (Darling-Hammond, 1998, p. 6).

Definition of Variables

Dependent Variable

Student Achievement: For the purposes of this study, student achievement includes student performance on the IOWA Assessment. The IOWA Assessment measures student achievement and growth. It provides National Standard Scores (NSS) which can be used to compare the student to similar peers and to evaluate student growth. Students receive a grade equivalent and an age equivalent score. They also receive a percentile ranking. The Achievement Score in this research will be national percentile ranking (NPR). Students' English/language arts (ELA), reading (RDG) and math scores were included in student achievement.

Independent Variables

Family structure: Family structure includes who is the guardian of the home, specifically if the home is a two-parent home, single-parent home, multi-family home, extended family, or blended family home.

Number of dependents in the home: For the purposes of this research, dependents include the number of siblings living in the home. The data includes anyone living in the home and being care for by the parents in a similar manner to the study participant.

Socioeconomic Status: For the purposes of this study, a student's free/reduced lunch status determines the economic status.

Home Language: The language that is spoken predominantly in the home as determined by the parent defines home language. Family members may or may not use the language when speaking with the child in the home.

Parental Engagement: Parental engagement is defined as the frequency and degree to which parents assist students with learning at home, volunteer in the school, discuss school with the student, or send materials/items to school.

Student Attendance: Student attendance is defined as the extent to which students were present in school each day during the regular school day hours.

Academic Intervention: Academic intervention, for the purposes of this study, includes early intervention program (EIP) and English classes (ESOL).

Delivery Model: Delivery model is defined as the extent to which students participated in an early learning experience. Four delivery models have been identified, two structured (Georgia/state pre-k or private pre-k) and two unstructured (in-home daycare or at-home learning).

Georgia Pre-K: For the purposes of this study, Georgia Pre-K is defined as the extent to which a student attended and completed a state-funded pre-kindergarten program.

Private Pre-K: Private pre-kindergarten is defined as any program housed within a daycare facility where the curriculum is developed or selected by the program directors.

In-home Daycare: In-home care is defined as any childcare experience within a home where the facilitator was not required to follow a curriculum.

At-home Learning: At-home learning is defined as any learning experience that occurred in the home including daily parent care, nanny care, or another family member.

Teacher Efficacy: For the purposes of this study, the perceptions of the teacher of his or her capacity to deal with differences in students' knowledge and skills arising from differences in the students' pre-k experiences. Teacher efficacy included teacher identification of concerns and their instructional practices for supporting student learning.

Figure 4 represents the relationship among the dependent variable and the independent variables.

Relationship among the Variables

The dependent variable identified for this research is student achievement. The researcher used second grade IOWA scores to represent the third grade students' achievement data. Additional data collected through document review included data on the implementation of academic intervention including early intervention (EIP) and English language support (EL/ESOL).

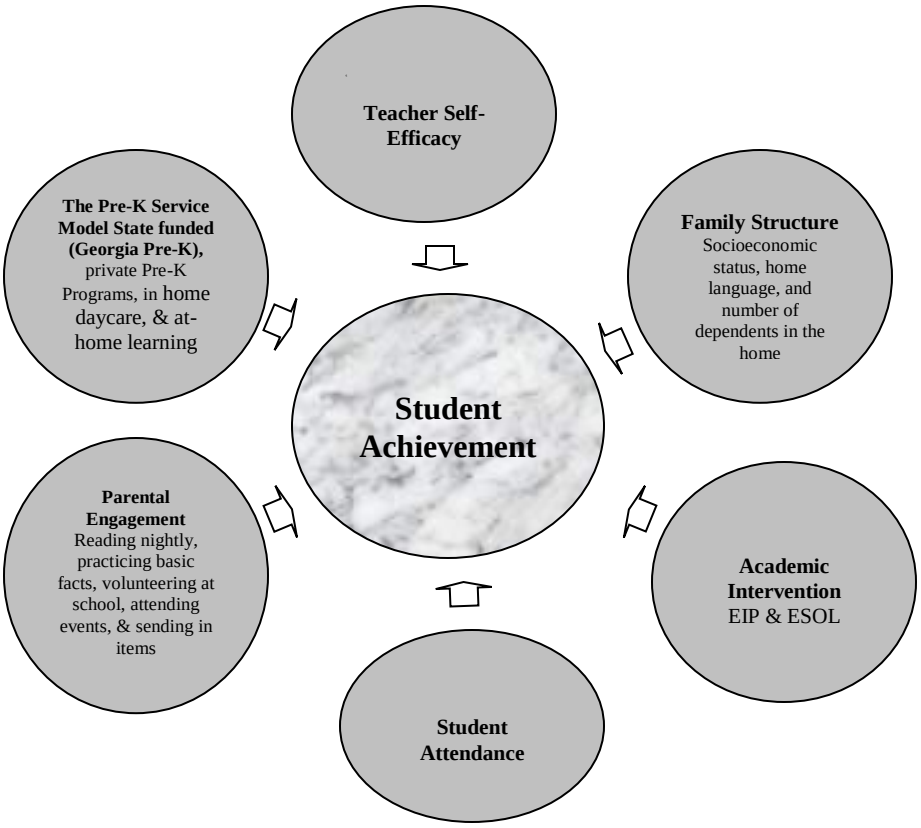

Figure 4. Variable Relationship diagram.

Programs such as EIP and ESOL ensure that schools provide identified students with supports that may result in closing academic achievement gaps. Consideration was also made for whether or not students consistently attend school. Student attendance may influence the impact of teacher effectiveness and student achievement.

The independent variables list is in no way exhaustive, but these variables have been identified as critical components of the current research. Because students spend most of their time between home and school, analyzing the home experience on the

highest level is a necessity. Figure 5 lists the variables and represents the theoretical framework of the research conducted.

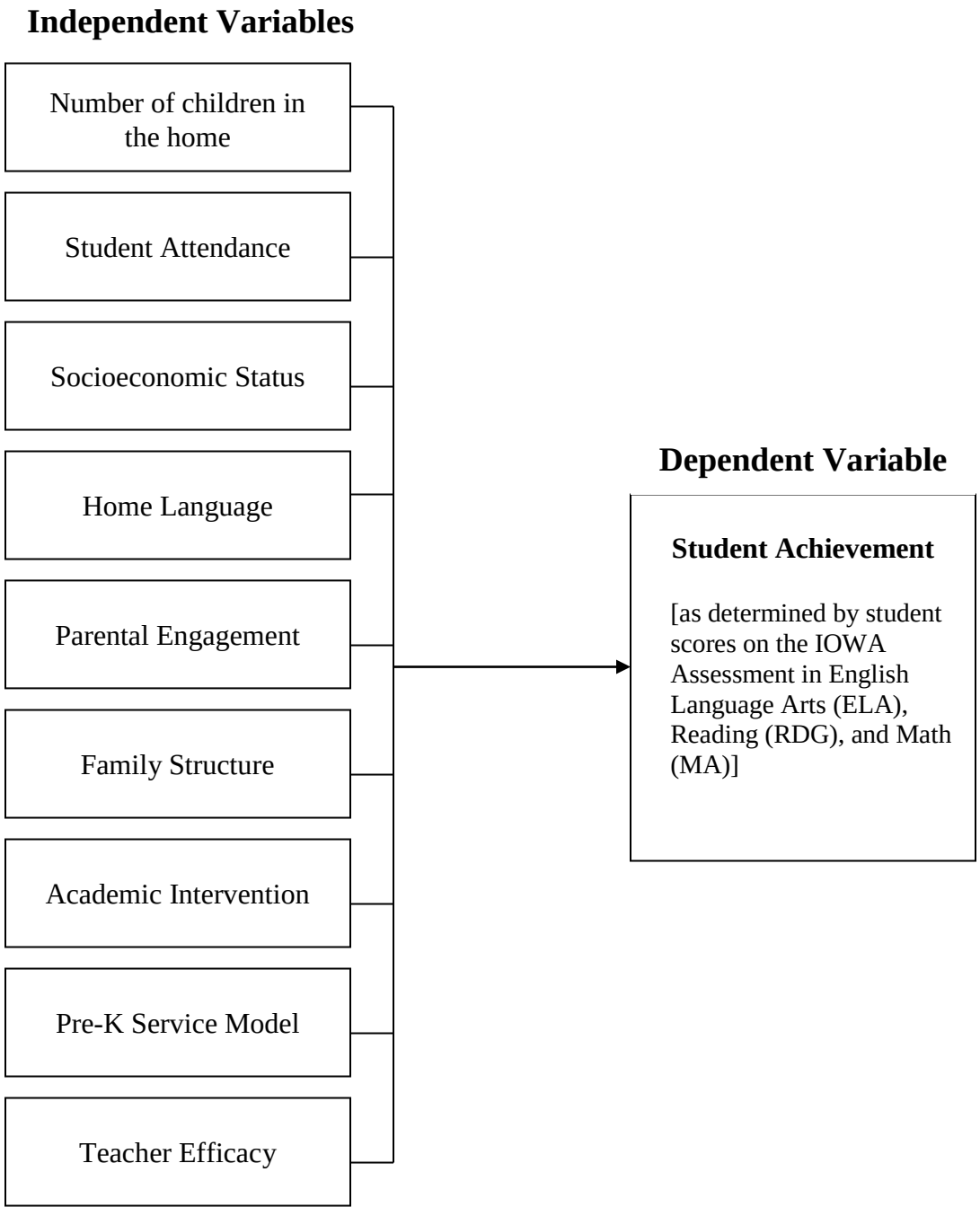

Figure 5. Relationship among the variables.

There is a need to determine who lives in the home with the learner, how supported learning is through parent engagement, and the economic status of the family that surrounds the student. The delivery model for learning is also an independent variable. Students may have participated in a state-funded pre-school, a private school, or a home learning situation. Teacher efficacy is an additional independent variable. While less clearly defined, collecting data regarding teachers' perceptions of their effectiveness in addressing students' needs and closing learning gaps must also be considered during the research process.

A consistent family structure where students can develop language skills and thinking skills will increase student achievement. Students who have attended state funded or private pre-k programs are anticipated to outperform those students from home learning experiences for the first year of school (kindergarten). There are no presumptions regarding this idea continuing to be true during the second year of schooling (first grade). There is believed to be a relationship between student achievement and teacher efficacy. The higher the teacher self-efficacy, the smaller the impact of the pre-kindergarten experience and any data gaps between subgroups should diminish with effective instruction from a teacher who is aware of quality teaching strategies and implements them with fidelity within the classroom.

Research Questions

The research was guided by the following questions. The list of questions is not exhaustive, but was focused and limited to the needs of the study at the time of development.

Quantitative Research Questions

RQ1: Are there differences in student achievement based on their pre-k experience (while considering other co-variants like socioeconomic status, home language, parental engagement, family structure, the number of children in the home, Pre-K Delivery Model, attendance, and academic intervention)?

RQ2: Is there a significant relationship between socioeconomic status and student achievement?

RQ3: Is there a significant relationship between home language and student achievement?

RQ4: Is there a significant relationship between parental engagement and student achievement?

RQ5: Is there a significant relationship between family structure and student achievement?

RQ6: Is there a significant relationship between the number of children in the home and student achievement?

RQ7: Is there a significant relationship between the Pre-K Delivery Model and student achievement?

RQ8: Is there a significant relationship between academic interventions and student achievement?

RQ9: Is there a significant relationship between student attendance and student achievement?

Qualitative Research Question

RQ10: How do teachers address the gaps in the knowledge and skills in the pre-k experiences of their students and the relationship to their self-efficacy?

Summary

As the evolution of economics continues to occur, the demands for contributing citizens increase and transform as well. The federal government has focused educational initiatives on preparing students to be successful beyond high school graduation. Through CCRPI, Georgia school districts are seeking those factors that can successfully prepare students for college and career success. CCRPI scores are developed for schools at all levels each year. Elementary school data from grades 3-5 are used to determine CCRPI scores, but the work behind the data extends across all grade levels and learning experiences.

In elementary school by third grade, students' below grade level performance have potentially long-lasting effects. "Children who do not read proficiently by the end of third grade are four times more likely to leave school without a diploma than proficient readers" as reported by sociologist Donald Hernandez (Annie Casey Foundation, 2013a, p. 5). Therefore, if leaders look to improve student success, they must look back to the student's previous experiences in addition to current learning experiences, to increase the likelihood of students growing into productive citizens. While some may look at when students enter school for kindergarten, this research contends that the learning experiences of students the first five years of their lives shape who they are as learners when they enter kindergarten.

To improve student achievement, one must go back to the kindergarten experience. If one wishes to address the impact of kindergarten, a review of prior experiences must also occur. For those students who enter kindergarten without the prerequisite skills needed, can the kindergarten teacher assist students in reaching grade level expectations by the end of the year, or are there carryover implications in first grade? Student learning begins before entering kindergarten. When students are not ready, teachers must work to fill holes in the student's knowledge base while building on these freshly acquired ideas.

CHAPTER IV

RESEARCH METHODOLOGY

Chapter IV provides information regarding the schools selected to participate in the research. The researcher completed the study through the collaborative work of these schools, analysis of the relationship between student achievement (in Kindergarten through second grade) and family structure, teacher efficacy, parental engagement, academic interventions, and pre-kindergarten experiences. By reviewing these relationships, the researcher sought to provide school districts across the nation with insight into how to improve student achievement during gateway years by closing academic gaps as early as kindergarten.

Research Design

A quantitative approach was selected to identify the impacts of pre-kindergarten experiences and how school systems could adequately ensure all students are on track by the end of the kindergarten year. While a quantitative approach provided viable data to identify significant relationships between several of the identified variables and student achievement, the smaller qualitative portion was perception-based and provided more personalized details regarding student readiness but with a much smaller sample size. According to Creswell (2015), a mixed methods procedure would provide more insight. While the study was largely quantitative in focus, there was a smaller qualitative portion

of the research that occurred simultaneously and focused on teacher self-efficacy. The research focused on a large urban district in Georgia. The research quantitatively compared longitudinal student achievement with family structure, socioeconomic status, home language, parental engagement, teacher self-efficacy, and learning experiences before kindergarten. The research also included a review of the factors teachers attribute to student performance during kindergarten and first grade and how it aligned to their grade achievement. Through the quantitative examination of student data and survey data, the research sought to find trends and significant relationships; however, the open ended portion of the research created an opportunity to have the why or what of the quantitative data explained in greater detail. A quantitative approach with a qualitative component was selected for this research because "this collective strength provides a better understanding of the research problem than either form of data alone" (Creswell, 2015, p. 2).

Description of the Setting

Two urban elementary schools were selected to participate in this study. Both schools were located within the same metropolitan school district. While the district has county-wide policies and procedures, local school autonomy created two unique sampling pools. In addition to being within the same district, the sample of students will include only those students enrolled in their school from kindergarten through third grade.

School A

School A opened in 1994 with 795 students. In 2014-2015, the school was home to 1,072 students. Table 1 displays the demographic information for School A. For the 2014-2015 school year, the school's largest ethnic group was Hispanic (57%), while black students (32%) comprised the second largest ethnic group. While these percentages are fairly accurate for the current measure, data for the 2015-2016 school year had not been released to the public prior to the completion of the research. Five percent of the school's population is white, 13% of the student population included special education students, the English Learner population included 48% of the school's total population, and the school had a 96% free/reduced lunch population. School A was a Title I school and received federal Title I funds at the time of this study.

Table 1

School A: Student Demographic Data (2012–2013 to 2014–2015)

	School Year		
	2012-2013	2013-2014	2014-2015
Enrollment	1,118	1,084	1,072
American Indian/Alaskan Native	0%	0%	0%
Asian	4%	4%	4%
Black/African American	36%	35%	32%
Hispanic or Latino, any race	51%	53%	57%
Multiracial, two or more races	3%	3%	2%
Native Hawaiian/Pacific Islander	0%	0%	0%
White	5%	5%	5%

Table 1 (continued)

	School Year		
	2012-2013	2013-2014	2014-2015
Special Education	12%	12%	13%
ESOL	42%	44%	48%
Free/Reduced Lunch	94%	91%	95%
Average Attendance	96%	97%	96%

School A received a CCRPI score of 80 from the state of Georgia in 2015. The prior year, the school received a state score of 74 (CCRPI). Figure 6 shows the school's CCRPI score in comparison to other schools in the district (black dots) and the state (light gray dots). In 2014-2015, 23 teachers held bachelor's degrees, while 38 teachers had master's degrees, 25 teachers had specialist's degrees, and less than five staff members had doctoral degrees. The majority of the staff members had 16-20 years of experience. There were 10 staff members with more than 25 years of experience in education.

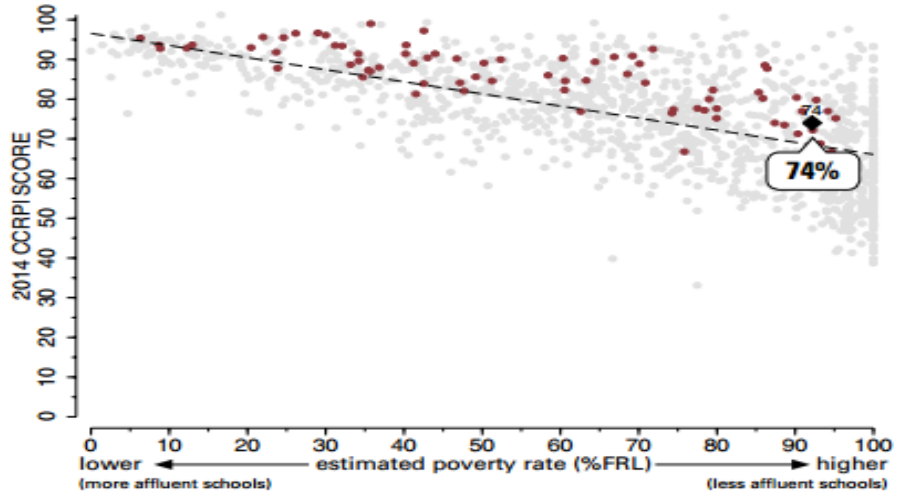

Figure 6. Scatter Plot of School A's CCRPI score.

In 2014-2015, 29.9% of third grade students in School A scored *Proficient* or *Distinguished* on the Georgia Milestones Assessment System (GMAS) End-of-Grade (EOG) Test in language arts. In third grade, 19.6% of students scored at or above the level of the *Proficient* learner on the math subtest of GMAS EOG. On the science GMAS EOG, 30.7% of students scored *Proficient* or higher. On the social studies GMAS EOG, 29.4% achieved at the level of a *Proficient* or *Distinguished* learner (see Table 2).

Table 2

School A: Third Grade 2014-2015 GMAS Scores

	School A	District	Georgia
English Language Arts	29.9	44.3	36.9
Mathematics	19.6	44.9	38.1
Science	30.7	41.0	34.3
Social Studies	29.4	36.6	29.6

School B

In 2010, School B opened. In 2014-2015, enrollment was 961. Forty-eight percent of the student population at School B were black with an almost equal Hispanic population (41%) in 2014-2015. The remaining percentage of the population included 4% white, 4% multiracial, and 4% Asian. During the 2014-2015 school year, 14% of the students were special education students, and 40% of the students were ESOL students. School B was a Title I school with an 88% free/reduced lunch population. Table 3 displays the demographic student data.

Table 3

School B: Student Demographic Data (2012–2013 to 2014–2015)

	School Year		
	2012-2013	2013-2014	2014-2015
Enrollment	955	968	961
American Indian/Alaskan Native	0%	0%	0%
Asian	4%	5%	4%
Black/African American	49%	51%	48%
Hispanic or Latino, any race	40%	38%	41%
Multiracial, two or more races	3%	3%	4%
Native Hawaiian/Pacific Islander	0%	0%	0%
White	3%	3%	4%
Special Education	10%	12%	14%
ESOL	39%	38%	40%
Free/Reduced Lunch	91%	90%	88%
Average Attendance	96%	96%	96%

In 2015, the school received a 73.1 CCRPI score from the state. The previous year the school scored 71.3 on the College and Career Readiness Index. Figure 7 shows the school's CCRPI score in comparison to other schools in the district (black dots) and the state (light gray dots). In 2014-2015, 28 teachers held a bachelor's degree, while more than 40 teachers had their master's degrees.

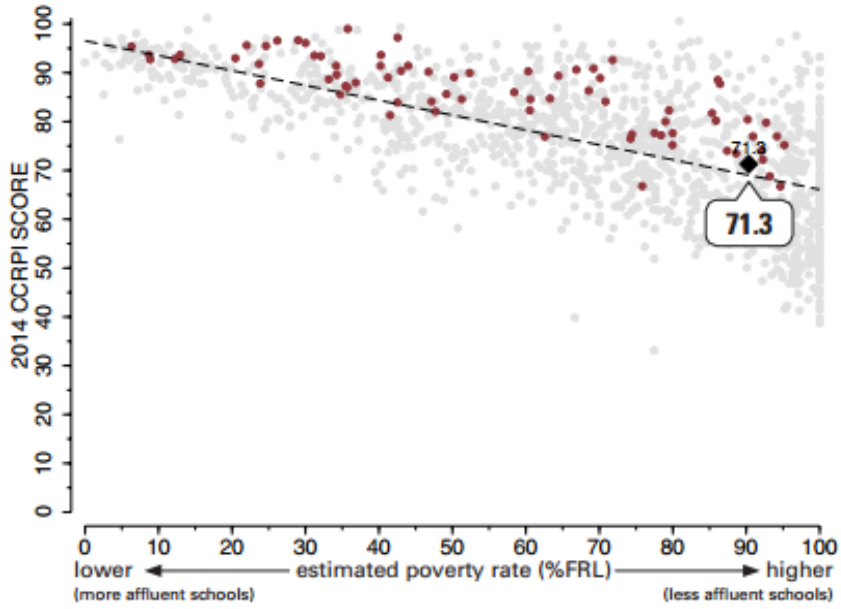

Figure 7. Scatter Plot of School B's CCRPI score.

Approximately 17 teachers had a specialist's degree while no staff members had their doctorate. Less than 5 of the staff members had more than 25 years of teaching experience. The majority of the staff had 0-15 years of experience. Twenty-one staff members had 0-5 years, while 23 had 6-10 years, and 24 had 11-15 years.

In 2014-2015, 25.3% of third grade students in School B scored *Proficient* or *Distinguished* on the Georgia Milestones Assessment System End-of-Grade Test in language arts. As shown in Table 4, 24% of students in third grade scored at or above the level of the *Proficient* learner on the math subtest of GMAS EOG. On the science GMAS EOG, 20.7% of students scored *Proficient* or higher. On the social studies GMAS EOG, 11.6% achieved at the level of a *Proficient* or *Distinguished* learner.

Table 4

School B: Third Grade 2014-2015 GMAS Scores

	School B	District	Georgia
English Language Arts	25.3	44.3	36.9
Mathematics	24.0	44.9	38.1
Science	20.7	41.0	34.3
Social Studies	11.6	36.6	29.6

Sampling Procedures and Population

The sample included approximately 117 students from two elementary schools within the same urban school district. Seventy-two third-grade students from one school and 45 students from the second school were selected, and their academic histories were reviewed. In addition to being within the same district, the sample of students included only those students who were enrolled in their school from kindergarten through third grade. Of the 117 students, 78 parents returned the survey completed. Fifty-four students from School A and 24 students from B were a part of the final data collection. Also, the sample included teachers from each of the schools. Six to eight teachers at the kindergarten and first grade levels from each school participated in the survey. The number of teacher survey participants totaled 22. Ten of the 22 teachers completed an additional in-depth questionnaire to determine how instructional practices address the differences in students as they enter kindergarten and first grade.

Working with Human Subjects

Before the study began, the school district gave permission to the researcher to conduct the study within the district. Permission was always requested and received from the Clark Atlanta University's Institutional Review Board (IRB) to conduct the research. The participating school district and school locations were not named through the study to guarantee the privacy and rights of all participants. The researcher did not collect the names of parents who participated in the survey to ensure their anonymity. Each parent survey had a passcode that matched the data provided by parents to the students' academic data. Parents were made aware that they did not have to participate or give permission for the student document review. Teachers were asked to voluntarily complete surveys and questionnaires.

Instrumentation

Four instruments were used to collect data for this study: parent surveys, student document reviews, teacher surveys, and teacher questionnaires. Student achievement data included student's second grade IOWA assessments scores. The IOWA Assessment is a norm-referenced test administered in grades 2 and 5 in this urban district. Additional assessment data was collected to see if there was a possible correlation between the IOWA data and other data collected within the district. The additional assessment data included students' second grade CogAT scores and year-long grade average. CogAT is a Cognitive Abilities Test administered within the district in first, second and fifth grades. The assessment focused on students' readiness and abilities for learning grade level instruction. The researcher collected student grades from student records. At the time of

data collection, students received three quarterly grades in language arts within the school district. The research focused on two of those grades: reading and writing.

Teacher self-efficacy data were determined by response to the teacher survey and teacher questionnaire. The teacher survey was implemented using an online survey tool. Teachers responded to questions regarding student achievement and parental engagement, student achievement and academic intervention, student achievement and participation in a pre-k program, and student achievement and teacher instructional practices. Teachers were also asked to complete a series of open-ended questions provided through a questionnaire. The questionnaire focused on student achievement and student participation in a pre-k program, student achievement and parental engagement, student achievement and academic intervention, and student achievement and teacher self-efficacy.

Socioeconomic status was determined by a review of student records. Socioeconomic status was divided into two groups: students receiving free or reduced lunch and students not receiving free or reduced lunch. Academic intervention data were determined by a review of student records and teacher surveys. The interventions considered during this study included students who were identified direct serve ESOL students and EIP students.

Students' Pre-K Service Models were collected by the parent survey. Parents responded to whether or not the student attended a pre-school program before entering kindergarten through the parent survey. Family size data were determined by the parent survey. One of the survey items asked how many dependents live in the home.

Dependents included all minors other than the student's guardians that lived in the home. Home language data were determined by parent survey. Parents were asked to state the language primarily spoken in the home and then any other languages that were spoken in the home in addition to the primary language. Family structure data were determined by parent survey. The survey required parents to identify if the home is a two-parent home, single-parent home, multi-family home, extended family home, or blended family home. Parent surveys were distributed in hard copy and offered online using a web address and QR code. The survey window remained open for three weeks. Parental engagement data were collected through parent surveys, teacher surveys, and teacher questionnaires.

Table 5 shows the relationship between each of the study's research questions and the instrument used to address the question. The overarching focus of the study is encompassed in research question 1 and is addressed using all four instruments including an ANOVA and a regression analysis of the quantitative data collected.

Table 5

Alignment of Research Questions and Data Collection Method

Research Question	Parent Survey	Document Review	Teacher Survey	Teacher Questionnaire
RQ1: Are there differences in student achievement based on their pre-k experience (while considering other co-variants like socioeconomic status, home language, parental engagement, family structure, the number of children in the home, Pre-K Delivery Model, attendance, and academic intervention)?	X	X	X	X
RQ2: Is there a significant relationship between socioeconomic status and student achievement?		X-FRL Status X-IOWA Scores		
RQ3: Is there a significant relationship between home language and student achievement?	Q5, Q6, Q7	X-IOWA		
RQ4: Is there a significant relationship between parental engagement and student achievement?	Q10	X-IOWA	Q1	Q5
RQ5: Is there a significant relationship between family structure and student achievement?	Q9	X-IOWA		

Table 5 (continued)

Research Question	Parent Survey	Document Review	Teacher Survey	Teacher Questionnaire
RQ6: Is there a significant relationship between the number of children in the home and student achievement?	Q8	X-IOWA		
RQ7: Is there a significant relationship between Pre-K Delivery Model and student achievement?	Q1, Q2, Q3, Q4	X-IOWA	Q3	
RQ8: Is there a significant relationship between academic interventions and student achievement?		X-EL X-IOWA	Q2	
RQ9: Is there a significant relationship between student attendance and student achievement?		X-Attendance X-IOWA		
RQ10: How do teachers address the gaps in the knowledge and skills in the pre-k experiences of their students and the relationship to their self-efficacy?			Q4	Q1, Q2, Q3, Q4

Data Collection Procedures

Data collection began with the document review portion of the study. Students that attended their current school since enrolling in kindergarten were identified first because these students and their parents were the only eligible participants for the study. Next, parents received a permission letter and a hard copy of the parent survey. The

parent letter requested permission to review and include their child's data in the research. Parents were asked to complete the surveys within three days. At each school, surveys were provided to a school administrator who disseminated surveys to third grade teachers. The third grade teachers sent the letters to the assigned parents. Parents were able to return the surveys confidentially. Once 65% of the surveys were returned, results were analyzed with acknowledged limitations. For any school where less than 65% of the surveys were returned, survey reminders were sent home again after the three-day timeframe with a new three-day deadline. Surveys were collected and added to the sample for an additional week.

Teachers were asked to participate in the online survey. Teachers received the survey electronically and were asked to respond within the one-week timeframe. After two weeks, teachers were sent a survey reminder requesting their voluntary participation. A final request for participation was sent to teachers one month after the initial participation invitation. It was planned to complete the teacher interviews using a paired survey model. Teachers were provided with interview questions, and three attempts were made to schedule face to face interviews. Due to time constraints, teachers were willing to complete the interview questions as a questionnaire. They were asked to include a contact number if they were available for a follow-up conversation. All 10 declined. The questionnaire focused on student achievement and parental engagement, student achievement and academic intervention, student achievement and participation in a pre-k program, and student achievement and teacher instructional practices. Table 6 represents the process used for collecting data for each variable in the study.

Table 6

Data Collection Tools and Timeline for Research Variables

Variable	Data Collection Method	Collection Time
Family Structure	Parent Survey	Three Weeks
Home Language	Parent Survey	Three Weeks
Family Size	Parent Survey	Three Weeks
Pre-K Service Model	Parent Survey	Three Weeks
Parental Involvement	Parent Survey, Teacher Survey, and Teacher Questionnaire	Three Weeks (Parent Survey) Four Weeks (Teacher Survey) Two weeks for Teacher Questionnaires
Academic Interventions	Student records, document review	Four weeks
Student Achievement	Student records, document review	Four weeks
Socioeconomic status	Student records, document review	Four weeks
Teacher Efficacy	Teacher Survey and Teacher questionnaire	Four weeks for surveys Two weeks for questionnaires

Following is the process used for collecting the data for this research:

1. Presented Prospectus for approval, Spring 2016

2. Submitted and received approval to complete study research in the selected school district, Initiated April 2016-Completed October 2016
3. Identified student sample through the initial stage of document review. To provide valid data, students who have remained in the same school for a minimum of three years were eligible participants (Fall 2016, November)
4. Completed document reviews for student sample. Reviewed students' achievement data on Grade 2 IOWA assessment. Also, reviewed Grade 2 CogAT, and student grades (Fall 2016, November)
5. Surveyed parents regarding family demographics, parental engagement, and pre-kindergarten experience (Fall 2016, November)
6. Surveyed teacher teams about their perspectives on what impacts student performance and the impact of pre-kindergarten experiences (Fall 2016, November)
7. Analyzed data and identified significant relationships (Fall 2016, December)
8. Defended Dissertation, Spring 2017 (January)

Construct Validity

The parent survey included eight questions related to parental engagement. Parents were asked to identify the fervor with which they talked to their child about school, helped with homework, checked their child's backpack, volunteered at school, communicated with the teacher, attended school events, and sent items to the classroom.

Table 7 represents the survey items that were included in parent engagement and their correlation to each other. Parents responded using a 4-point Likert scale. These eight questions were analyzed for content validity and created the parent engagement variable used in data analysis. Talking (.667), homework help (.548), checking the backpack (.594), volunteering (.512), communicating (.647), attending events (.546), and providing items (.708) all have a significant correlation to parent engagement. Parents who did more to be engaged were more engaged in all areas.

Table 7

Parent Engagement: Item-to-Scale Test of Content Validity

	Parent Engage	Talk	Homework	Backpack	Volunteer	Communicate	Events	Items
Pearson Correlation	1	.677**	.548**	.594**	.512**	.647**	.546**	.708**
Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
N	68	68	68	68	68	68	68	68

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Test

Using the Cronbach's Alpha, the Parent Engagement variable was tested for reliability. The Cronbach's Alpha coefficient of .742 was above the generally acceptable .700 level. The data collected for parent engagement was considered to be valid and reliable (see Table 8).

Table 8

Reliability Test of Parent Engagement Questions

Cronbach's Alpha	N of Items
.742	8

Statistical Applications

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). In addition, significant relationships were identified between the variables. As described by Creswell (2013), the qualitative data collected followed a grounded theory study.

Summary

A quantitative approach was used during the research. The study included four forms of data collection: parent surveys, teacher surveys, document review, and teacher questionnaire. The quantitative data collected were analyzed using a Pearson correlation, regression analysis, and ANOVA. The qualitative data were coded and significant themes were identified. The chapter summarized the process for collecting the data surrounding the study's research questions. The researcher sought to identify if there was a significant correlation between students' achievement and their early learning experience.

CHAPTER V

ANALYSIS OF THE DATA

The purpose of this study was to research the potential relationships that could impact student achievement based on their learning experiences before entering kindergarten in a large urban school district. The research questions embedded in the theoretical framework guided the data analysis. To increase the breadth and depth of the study, a quantitative approach with a lesser qualitative component was used to investigate the research questions and the relationship between the dependent and independent variables. The independent variables in this study included socioeconomic status, home language, parental engagement, family structure, family size, pre-k delivery model, academic interventions, and teacher self-efficacy. The dependent variable was student achievement. In this chapter, an analysis of the data was recorded.

Overview of Data Collection and Analysis

The researcher collected data four ways: (a) norm-reference assessment data (administered by the school district), (b) parent surveys, and (c) teacher surveys and (d) questionnaires. Student assessment data were collected using school assessment reports provided to schools through the county's research office. Data collection for parent surveys primarily occurred through a traditional paper/pencil survey offered in Spanish and English. While an online version of the survey was created and provided to parents

through a QR code and link, parents selected to complete the paper copy of the survey. The parent survey consisted of nine demographics centered questions and seven questions on parent engagement. The parent engagement questions required parents to provide their perceptions of their engagement on a 4-point Likert scale: 1= Never, 2 = Sometimes, 3 = Often, and 4 = Always. Within the two schools that agreed to participate in this research, 117 third graders met the requirements for participating. These 117 students had attended the same school since kindergarten. Surveys were distributed to the parents of each eligible student via their child. The children were provided with a closed envelope that included their permission letter to participate in the study and a survey to collect the quintessential data of whether or not the students had been to a structured pre-k experience, before enrolling in public kindergarten. A total of 78 parents participated in the survey. Tables 9-14 in this chapter display the demographic information shared by parents.

Survey Participants

Table 9 shows 72.2% of students in the sample attended a state funded pre-k program. By considering Private pre-k and state funded pre-k to both be structured, 81.9% of the study sample participated in a structured learning experience before entering elementary school. A total of 18.1% of parents identified their child's initial learning experience before kindergarten as an in-home daycare or at home with a family member. Both the in-home daycare and home care with family were considered an unstructured experience before kindergarten.

Table 9

Student Demographic Data: Pre-K Service Model

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	State Funded Pre-K	52	58.4	72.2	72.2
	Private Pre-K	7	7.9	9.7	81.9
	In Home Daycare	2	2.2	2.8	84.7
	Home w/family	11	12.4	15.3	100.0
	Total	72	80.9	100.0	
Missing	System	17	19.1		
Total		89	100.0		

In Table 10, 60.3% of the students in the sample size were Hispanic, 21.8% were black, and 9% were white. No Hawaiian/Pacific Islanders participated in the study sample.

Table 10

Student Demographic Data: Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hispanic	47	52.8	60.3	60.3
	Black	17	19.1	21.8	82.1
	White	7	7.9	9.0	91.0
	Native American Indian/Alaskan	2	2.2	2.6	93.6

Table 10 (continued)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Asian	4	4.5	5.1	98.7
	Multiracial	1	1.1	1.3	100.0
	Total	78	87.6	100.0	
Missing	System	11	12.4		
Total		89	100.0		

In Table 11, 62.8% of the students were EL students and 35.9% of the students were identified as non-EL students. The non-EL students included former EL students who had successfully exited the program for more than two years.

Table 11

Student Demographic Data: English Language Learner Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non EL	28	31.5	35.9	35.9
	Monitored	1	1.1	1.3	37.2
	EL	49	55.1	62.8	100.0
	Total	78	87.6	100.0	
Missing	System	11	12.4		
Total		89	100.0		

Table 12 shows 6.4% of students were Students with Disabilities (SWD). The remaining 93.6% of students were not identified as SWD.

Table 12

Student Demographic Data: Students with Disabilities Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non SWD	73	82.0	93.6	93.6
	SWD	5	5.6	6.4	100.0
	Total	78	87.6	100.0	
Missing	System	11	12.4		
Total		89	100.0		

Free/reduced lunch status determined socioeconomic status. Table 13 shows 79.5% of students received free lunch, and 14.1% of the students were in the reduced lunch category.

Table 13

Student Demographic Data: Free/Reduced Lunch Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non FRL	5	5.6	6.4	6.4
	Reduced	11	12.4	14.1	20.5
	Free	62	69.7	79.5	100.0
	Total	78	87.6	100.0	
Missing	System	11	12.4		
Total		89	100.0		

Table 14 displays student gender. Male students made up 48.7% of the sample, and 51.3% were female.

Table 14

Student Demographic Data: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	38	42.7	48.7	48.7
	Female	40	44.9	51.3	100.0
	Total	78	87.6	100.0	
Missing	System	11	12.4		
Total		89	100.0		

Twenty-two teachers participated in the survey, and ten provided feedback on the questionnaire. Teacher data were collected through an online survey and questionnaire. The online survey included seven open-ended demographics questions and four additional questions on a 4-point Likert scale: 1 = Never, 2 = Sometimes, 3 = Often, and 4 = Always. The questionnaire included five open ended questions for teachers. The following figures display the demographic information for teachers.

Figure 8 displays that 55% of the teachers were from School A and 45% of the teachers were from School B.

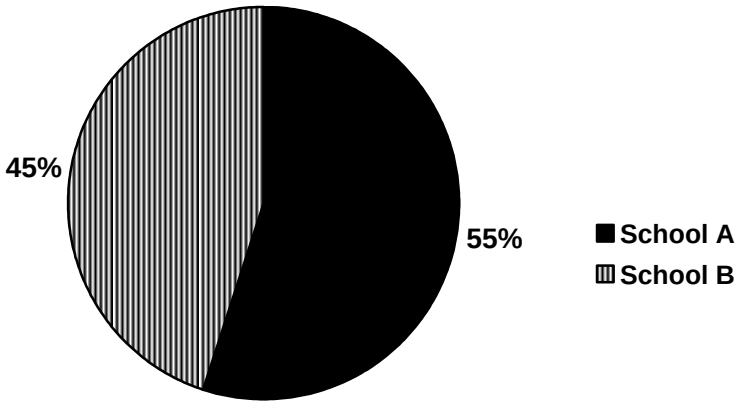

Figure 8. Teacher Survey - work location.

Figure 9 shows that 48% of the teachers were Kindergarten teachers and the other 52% of the teachers were first grade teachers.

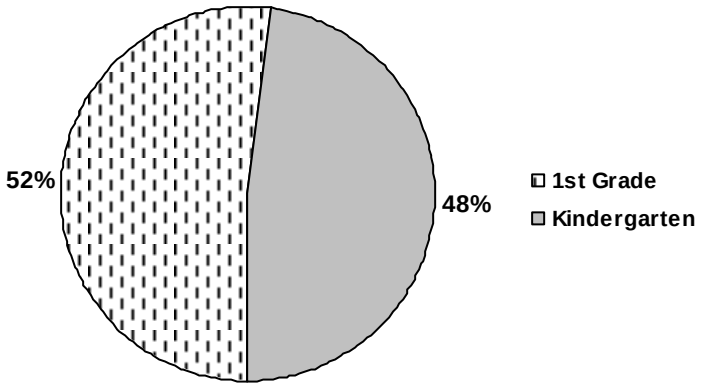

Figure 9. Teacher Survey - grade level taught.

Figure 10 exhibits that 54% of the teacher sample stated that they had a master's degree; 41% had a bachelor's degree, and 5% had a specialist's degree.

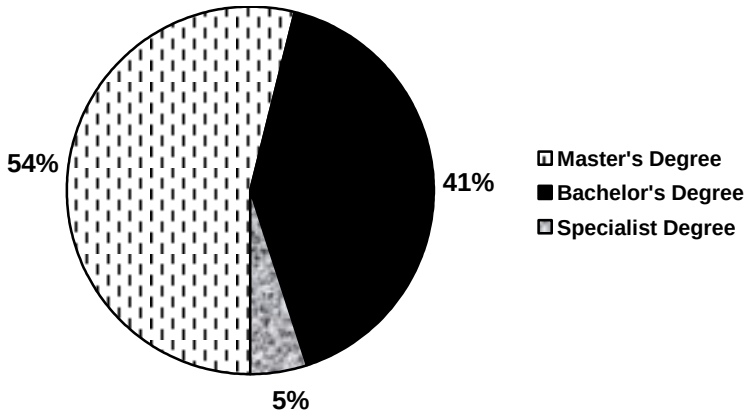

Figure 10. Teacher Survey - highest degree completed.

Figure 11 displays 41% of the teachers had 0-5 years of experience and 23% of the teachers had 6-10 years of experience.

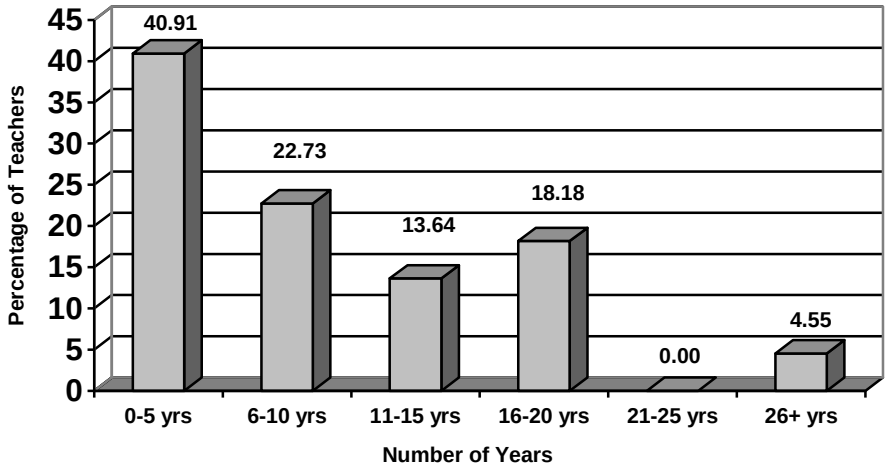

Figure 11. Teacher Survey - years of teaching experience.

Figure 12 represents that 50% of the teacher participants were white and 18% were black. Twenty-three percent of the teachers selected not to share their ethnicity through the survey.

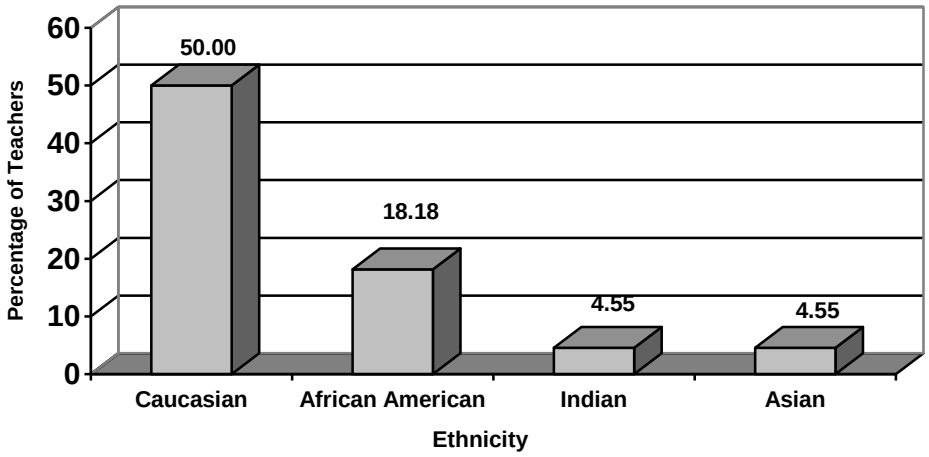

Figure 12. Teacher Survey – ethnicity.

Data in Response to the Research Questions

The focus of this chapter is to address the research questions of this study and the data collected around each question. The Statistical Package for the Social Sciences (SPSS) software was used to conduct a conclusive analysis of the data. A Pearson *r* Correlation analysis, a regression analysis, and an ANOVA was use to analyze the data collected. To determine the level of significance and correlations between the identified variables a Pearson *r* Correlation was conducted. To delve deeper into the significance of relationships between variables a regression analysis was completed. Also, an ANOVA analysis was completed to determine relationships within the groups or outside the group of variables.

The questions related to parent engagement have been collectively combined in SPSS to create the parent engagement data column. Students IOWA scores in English/ language arts, reading, and math are the identified achievement scores. English language arts is represented by ELA. The letters RDG refers to reading, and MA was used as an

abbreviation for math. Table 15 displays the correlation between student achievement data and several items from the parent survey.

Table 15

Parent Survey Correlation: Student Achievement

		ELA	RDG	Math	Parent Engage	Q1 Pre-K Attended
ELA	Pearson Correlation	1	.665**	.931**	.135	-.005
	Sig. (2-tailed)		.000	.000	.274	.966
	N	77	77	77	67	70
RDG	Pearson Correlation	.665**	1	.564**	.073	-.023
	Sig. (2-tailed)	.000		.000	.555	.852
	N	77	77	77	67	70
Math	Pearson Correlation	.931**	.564**	1	.092	-.033
	Sig. (2-tailed)	.000	.000		.460	.785
	N	77	77	77	67	70
Parent Engmt	Pearson Correlation	.135	.073	.092	1	-.321*
	Sig. (2-tailed)	.274	.555	.460		.010
	N	67	67	67	68	63
Q1 Pre-K Attended	Pearson Correlation	-.005	-.023	-.033	-.321*	1
	Sig. (2-tailed)	.966	.852	.785	.010	
	N	70	70	70	63	72
Q4 Full/Half Day	Pearson Correlation	-.115	-.304*	-.028	-.373**	.084
	Sig. (2-tailed)	.383	.018	.830	.005	.528
	N	60	60	60	55	58
Q5 English at Home	Pearson Correlation	.116	.009	.129	.323**	-.166
	Sig. (2-tailed)	.318	.935	.267	.008	.164
	N	76	76	76	67	72
Q8 Children in Home	Pearson Correlation	.166	.159	.167	-.240	.425**
	Sig. (2-tailed)	.222	.242	218	.080	.001
	N	56	56	56	54	58

Table 15 (continued)

		ELA	RDG	Math	Parent Engage	Q1 Pre-K Attended
Q9 Home Structure	Pearson Correlation	-.009	-.051	.022	.153	.156
	Sig. (2-tailed)	.941	.676	.855	.238	.211
	N	69	69	69	61	66

		Q4 Full/Half Day	Q5 English at Home	Q8 Children in Home	Q9 Home Structure
ELA	Pearson Correlation	-.115	.116	.166	-.009
	Sig. (2-tailed)	.383	.318	.222	.941
	N	60	76	56	69
RDG	Pearson Correlation	-.304*	.009	.159	-.051
	Sig. (2-tailed)	.018	.935	.242	.676
	N	60	76	56	69
Math	Pearson Correlation	-.028	.129	.167	.022
	Sig. (2-tailed)	.830	.267	.218	.855
	N	60	76	56	69
Parent Engmt	Pearson Correlation	-.373**	.323**	-.240	.153
	Sig. (2-tailed)	.005	.008	.080	.238
	N	55	67	54	61
Q1 Pre-K Attended	Pearson Correlation	.084	-.166	.425**	.156
	Sig. (2-tailed)	.528	.164	.001	.211
	N	58	72	58	66
Q4 Full/Half Day	Pearson Correlation	1	-.053	.189	.054
	Sig. (2-tailed)		.683	.185	.693
	N	61	61	51	56
Q5 English at Home	Pearson Correlation	-.053	1	-.067	-.018
	Sig. (2-tailed)	.683		.616	.879
	N	61	78	58	71
Q8 Children in Home	Pearson Correlation	.189	-.067	1	.014
	Sig. (2-tailed)	.185	.616		.920
	N	51	58	58	55

Table 15 (continued)

		Q4 Full/Half Day	Q5 English at Home	Q8 Children in Home	Q9 Home Structure
Q9 Home Structure	Pearson Correlation	.054	-.018	.014	1
	Sig. (2-tailed)	.693	.879	.920	
	N	56	71	55	71

Table 16 shows a comparison of student achievement data and their demographic information for significant correlations. Students' age, ethnicity, English language learner status, students with disabilities, free/reduced lunch status, gender, and attendance (Kindergarten, first grade, and second grade) were compared to their IOWA scores.

RQ1: Are there differences in student achievement based on their pre-k experience (while considering other co-variants like socioeconomic status, home language, parental engagement, family structure, the number of children in the home, Pre-K Delivery Model, attendance, and academic intervention)?

Table 16

Student Document Review Correlation: Achievement Scores and Demographics

		ELA	RDG	MA	BRT	ETH	ELL
ELA	Pearson Correlation	1	.665**	.931**	-.160	.114	-.238*
	Sig. (2-tailed)		.000	.000	.166	.326	.037
	N	77	77	77	77	76	77
RDG	Pearson Correlation	.665**	1	.564**	-.176	.177	-.137
	Sig. (2-tailed)	.000		.000	.126	.126	.236
	N	77	77	77	77	76	77

Table 16 (continued)

		ELA	RDG	MA	BRT	ETH	ELL
MA	Pearson Correlation	.931**	.564**	1	-.164	.119	-.251*
	Sig. (2-tailed)	.000	.000		.153	.307	.028
	N	77	77	77	77	76	77
BRTH DATE	Pearson Correlation	-.160	-.176	-.164	1	.084	.087
	Sig. (2-tailed)	.166	.126	.153		.465	.448
	N	77	77	77	79	78	78
ETH	Pearson Correlation	.114	.177	.119	.084	1	-.108
	Sig. (2-tailed)	.326	.126	.307	.465		.348
	N	76	76	76	78	78	77
ELL	Pearson Correlation	-.238*	-.137	-.251*	.087	-.108	1
	Sig. (2-tailed)	.037	.236	.028	.448	.348	
	N	77	77	77	78	77	78
SWD	Pearson Correlation	-.170	-.200	-.169	-.030	.151	-.183
	Sig. (2-tailed)	.140	.081	.141	.795	.190	.109
	N	77	77	77	78	77	78
FRL	Pearson Correlation	-.212	-.107	-.218	.054	.031	.321**
	Sig. (2-tailed)	.064	.355	.057	.640	.788	.004
	N	77	77	77	78	77	78
Gen	Pearson Correlation	.266*	.059	.271*	-.117	.090	-.101
	Sig. (2-tailed)	.020	.611	.017	.308	.437	.379
	N	77	77	77	78	77	78
KK Att	Pearson Correlation	-.085	.114	-.166	.121	.202	.041
	Sig. (2-tailed)	.461	.324	.150	.291	.078	.722
	N	77	77	77	78	77	78
1st Att	Pearson Correlation	.113	.111	.073	-.055	.203	.070
	Sig. (2-tailed)	.328	.337	.528	.633	.076	.540
	N	77	77	77	78	77	78
2nd Att	Pearson Correlation	.015	-.036	-.009	.270*	.053	.124
	Sig. (2-tailed)	.898	.758	.939	.017	.647	.281
	N	77	77	77	78	77	78

Table 16 (continued)

		SWD	FRL	Gen	KK	1st	2nd
ELA	Pearson Correlation	-.170	-.212	.266*	-.085	.113	.015
	Sig. (2-tailed)	.140	.064	.020	.461	.328	.898
	N	77	77	77	77	77	77
RDG	Pearson Correlation	-.200	-.107	.059	.114	.111	-.036
	Sig. (2-tailed)	.081	.355	.611	.324	.337	.758
	N	77	77	77	77	77	77
MA	Pearson Correlation	-.169	-.218	.271*	-.166	.073	-.009
	Sig. (2-tailed)	141	.057	.017	.150	.528	.939
	N	77	77	77	77	77	77
BRTH DATE	Pearson Correlation	-.030	.054	-.117	.121	-.055	.270*
	Sig. (2-tailed)	.795	.640	.308	.291	.633	.017
	N	78	78	78	78	78	78
ETH	Pearson Correlation	.151	.031	.090	.202	.203	.053
	Sig. (2-tailed)	.190	.788	.437	.078	.076	.647
	N	77	77	77	77	77	77
ELL	Pearson Correlation	-.183	.321**	-.101	.041	.070	.124
	Sig. (2-tailed)	.109	.004	.379	.722	.540	.281
	N	78	78	78	78	78	78
SWD	Pearson Correlation	1	.032	-.059	.059	.097	.077
	Sig. (2-tailed)		.782	.607	.608	.397	.501
	N	78	78	78	78	78	78
FRL	Pearson Correlation	.032	1	-.190	.214	.035	.090
	Sig. (2-tailed)	.782		.095	.060	.758	.434
	N	78	78	78	78	78	78
Gen	Pearson Correlation	-.059	-.190	1	-.048	-.144	-.036
	Sig. (2-tailed)	.607	.095		.677	.210	.754
	N	78	78	78	78	78	78
KK Att	Pearson Correlation	.059	.214	-.048	1	.511**	.600**
	Sig. (2-tailed)	.608	.060	.677		.000	.000
	N	78	78	78	78	78	78
1st Att	Pearson Correlation	.097	.035	-.144	.511**	1	.677**
	Sig. (2-tailed)	.397	.758	.210	.000		.000
	N	78	78	78	78	78	78

Table 16 (continued)

		SWD	FRL	Gen	KK	1st	2nd
2nd Att	Pearson Correlation	.077	.090	-.036	.600**	.677**	1
	Sig. (2-tailed)	.501	.434	.754	.000	.000	
	N	78	78	78	78	78	78

Tables 17-19 represent the Analysis of Variance (ANOVA) that was used to analyze data for research question one. The data do not find any significant differences in student achievement based on students' pre-k experiences. Within this urban district, by October of students' second grade school year, there is no significant relationship between student achievement (on the IOWA assessment) and students' pre-k experience.

Table 17

Differences in English/Language Arts Achievement Scores Based on Pre-K Attendance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	152.524	3	50.841	.056	.983
Within Groups	60310.962	66	913.802		
Total	60463.486	69			

Table 18

Differences in Reading Achievement Scores Based on Pre-K Attendance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	964.475	3	321.492	.385	.764
Within Groups	55102.110	66	834.880		
Total	56066.586	69			

Table 19

Differences in Math Achievement Scores Based on Pre-K Attendance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	204.141	3	68.047	.066	.978
Within Groups	68323.702	66	1035.208		
Total	68527.843	69			

RQ2: Is there a significant relationship between socioeconomic status and student achievement?

According to the correlation test, student achievement in English/language arts and socioeconomic status has a correlation of -.212 and significance at the .064 level. There is a negative correlation between the two variables, but there is not a significant relationship.

Student achievement in reading and socioeconomic status has a correlation of -.107 and significance at the .355 level. The data suggest there is a negative correlation between the two variables, but there is not a significant relationship.

Student achievement in math and socioeconomic status has a correlation of -.218 and significance at the .057 level. There is a negative correlation between the two variables, but there is not a significant relationship. As shown in Table 20, student socioeconomic status is represented using free/reduced lunch status.

Table 20

Student Achievement Correlation: Free/Reduce Lunch Status

		ELA	RDG	MA
FRL	Pearson Correlation	-.212	-.107	-.218
	Sig. (2-tailed)	.064	.355	.057
	N	77	77	77

RQ3: Is there a significant relationship between home language and student achievement?

Tables 21 and 22 display parent responses to questions about in-home language. Table 21 shows the frequency of English being spoken in the home, while Table 22 shows the primary home languages of students.

Table 21

Parent Survey Question 5 Responses: English Spoken in the Home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	11	12.4	14.1	14.1
	Sometimes	22	24.7	28.2	42.3
	Often	18	20.2	23.1	65.4
	Always	27	30.3	34.6	100.0
	Total	78	87.6	100.0	
Missing	System	11	12.4		
Total		89	100.0		

Table 22

Parent Survey Question 6 Responses: Primary Home Language

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	English	29	32.6	36.7	36.7
	Spanish	43	48.3	54.4	91.1
	French	1	1.1	1.3	92.4
	Korean	4	4.5	5.1	97.5
	Russian	1	1.1	1.3	98.7
	Vietnamese	1	1.1	1.3	100.0
	Total	79	88.8	100.0	
Missing	System	10	11.2		
Total		89	100.0		

According to the correlation test, Table 23 displays that student achievement in English/language arts and home language has a correlation of .116 and significance at the .318 level. The data suggest there is a positive correlation between the two variables, but there is not a significant relationship.

Table 23

Student Achievement Correlation: English Spoken in the Home

		ELA	RDG	MA
Question 5:	Pearson Correlation	.116	.009	.129
English Spoken	Sig. (2-tailed)	.318	.935	.267
in the Home	N	76	76	76

Student achievement in reading and home language has a correlation of .009 and significance at the .935 level. The data indicate there is a positive correlation between the two variables, but there is not a significant relationship. The following table displays the significant relationships between primary home language and student achievement data. Similar to whether or not English was spoken in the home, no significant relationships were identified in ELA, reading, or math (see Table 24).

Table 24

Student Achievement Correlation: Primary Language Spoken in the Home

		ELA	RDG	MA
Question 6: Primary Language Spoken in the Home	Pearson Correlation	.001	.036	.028
	Sig. (2-tailed)	.991	.755	.811
	N	77	77	77

Student achievement in math and home language has a correlation of .129 and significance at the .267 level. There is a positive correlation between the two variables, but there is no significant relationship.

RQ4: Is there a significant relationship between parental engagement and student achievement?

According to the correlation test, Table 25 shows student achievement in English/language arts and parental engagement has a correlation of .135 and significance at the .274 level. The data suggest there is a positive correlation between the two variables, but there is not a significant relationship.

Table 25

Student Achievement Correlation: Parent Engagement

		ELA	RDG	MA
Parent Engagement	Pearson Correlation	.135	.073	.092
	Sig. (2-tailed)	.274	.555	.460
	N	67	67	67

Student achievement in reading and parental engagement has a correlation of .073 and significance at the .555 level. The data indicate there is a positive correlation between the two variables, but there is not a significant relationship. Student achievement in math and parental engagement has a correlation of .092 and significance at the .460 level. There is a positive correlation between the two variables, but there is no significant relationship.

RQ5: Is there a significant relationship between family structure and student achievement?

According to the correlation test, student achievement in English/language arts and family structure has a correlation of -.009 and significance at the .941 level. The data suggest there is a negative correlation between the two variables, but there is not a significant relationship.

Student achievement in reading and family structure has a correlation of -.051 and significance at the .676 level. The data indicate there is a negative correlation between the two variables, but there is not a significant relationship.

As shown in Table 26, student achievement in math and family structure has a correlation of .022 and significance at the .855 level. There is a positive correlation between the two variables, but there is no significant relationship.

Table 26

Student Achievement Correlation: Family Structure

		ELA	RDG	MA
Question 9: Family Structure	Pearson Correlation	-.009	-.051	.022
	Sig. (2-tailed)	.941	.676	.855
	N	69	69	69

RQ6: Is there a significant relationship between the number of children in the home and student achievement?

According to the correlation test, student achievement in English/language arts and the number of children in the home has a correlation of .166 and significance at the .222 level. The data suggest there is a positive correlation between the two variables, but there is not a significant relationship.

Student achievement in reading and the number of children in the home has a correlation of .159 and significance at the .242 level. The data included in Table 27 indicate there is a positive correlation between the two variables, but there is not a significant relationship. Student achievement in math and the number of children in the home has a correlation of .167 and significance at the .218 level. There is a positive correlation between the two variables, but there is no significant relationship.

Table 27

Student Achievement Correlation: Number of Children in the Home

	ELA	RDG	MA
Pearson Correlation	.166	.159	.167
Sig. (2-tailed)	.222	.242	.218
N	56	56	56

RQ7: Is there a significant relationship between Pre-K Delivery Model and student achievement?

According to the correlation test represented in Table 28, student achievement in English/language arts and Pre-K Service Model has a correlation of -.005 and significance at the .966 level. The data suggest there is a negative correlation between the two variables, but there is not a significant relationship.

Table 28

Student Achievement Correlation: Pre-Kindergarten Service Model

	ELA	RDG	MA
Pearson Correlation	-.005	-.023	-.033
Sig. (2-tailed)	.966	.852	.785
N	70	70	70

Student achievement in reading and Pre-K Service Model has a correlation of -.023 and significance at the .852 level. The data indicate there is a negative correlation between the two variables, but there is not a significant relationship.

Student achievement in math and Pre-K Service Model has a correlation of -.033 and significance at the .785 level. There is a negative correlation between the two variables, but there is no significant relationship (see Table 28).

RQ8: Is there a significant relationship between academic interventions and student achievement?

According to the correlation test, student achievement in English/language arts and ELL has a correlation of -.238 and significance at the .037 level. The data suggest there is a negative correlation between the two variables, and there is a significant relationship.

Student achievement in reading and ELL has a correlation of -.137 and significance at the .236 level. The data indicate there is a negative correlation between the two variables, but there is not a significant relationship.

Student achievement in math and ELL has a correlation of -.251 and significance at the .028 level. As shown in Table 29, there is a negative correlation between the two variables, and there is a significant relationship.

Table 29

Student Achievement Correlation: English Language Learner Status

	ELA	RDG	MA
Pearson Correlation	-.238*	-.137	-.251*
Sig. (2-tailed)	.037	.236	.028
N	77	77	77

RQ9: Is there a significant relationship between student attendance and student achievement?

According to the correlation test, student achievement in English/language arts and student attendance has a correlation of -.085 in kindergarten, .113 in first grade, and .015 in second grade. There is a significance of .461 in kindergarten, .328 in first grade, and .898 in second grade. The data suggest there is a negative correlation in kindergarten between the two variables and a positive correlation in first and second grade. However, there is no significant relationship between attendance and student achievement in English/language arts at any grade.

Student achievement in reading and student attendance has a correlation of .114 in Kindergarten, .111 in first grade, and -.036 in second grade. There is a significance of .324 in kindergarten, .337 in first grade, and .758 in second grade. The data indicate there is a negative correlation in second grade between the two variables and a positive correlation in kindergarten and first grade. However, there is no significant relationship between attendance and student achievement in reading at any grade.

As shown in Table 30, student achievement in math and student attendance has a correlation of -.166 in kindergarten, .073 in first grade, and -.009 in second grade. There is a significance of .150 in kindergarten, .528 in first grade, and .939 in second grade. The data suggest there is a negative correlation in kindergarten and second grade between the two variables and a positive correlation in first grade. However, there is no significant relationship between attendance and student achievement in math at any grade.

Table 30

Student Achievement Correlation: Attendance History

		ELA	RDG	MA
KK Att	Pearson Correlation	-.085	.114	-.166
	Sig. (2-tailed)	.461	.324	.150
	N	77	77	77
1st Att	Pearson Correlation	.113	.111	.073
	Sig. (2-tailed)	.328	.337	.528
	N	77	77	77
2nd Att	Pearson Correlation	.015	-.036	-.009
	Sig. (2-tailed)	.898	.758	.939
	N	77	77	77

Table 31 shows the regression analysis that was completed to identify which variables had the greatest impact on students' English/language arts achievement data. The two factors identified were gender and birth date. While gender and birth date were not identified as independent variables in the study. The data were collected as a portion of the students' demographic profiles. Through the regression analysis, younger students were found to have scored higher than their older classmates, and girls scored higher than boys.

Table 31

Regression Tables for ELA Student Achievement Data

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.288[a]	.083	.064	27.472	.083	4.328	1	48	.043
2	.437[b]	.191	.157	26.071	.108	6.299	1	47	.016

a. Predictors: (Constant), BRTHDTE

b. Predictors: (Constant), BRTHDTE, gender

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3266.350	1	3266.350	4.328	.043[b]
	Residual	36226.470	48	754.718		
	Total	39492.820	49			
2	Regression	7547.411	2	3773.705	5.552	.007[c]
	Residual	31945.409	47	679.690		
	Total	39492.820	49			

a. Dependent Variable: ELA

b. Predictors: (Constant), BIRTHDTE

c. Predictors: (Constant), BRTHDTE, gender

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	38254.578	18360.513		2.084	.043
	BRTHDTE	-.190	.091	-.288	-2.080	.043
2	(Constant)	44358.346	17592.913		2.521	.015
	BRTHDTE	-.221	.088	-.334	-2.519	.015
	gender	18.748	7.470	.332	2.510	.016

a. Dependent Variable: ELA

Table 32 shows the regression analysis that was completed to identify which variables had the greatest impact on students' reading achievement data. The two factors identified were ethnicity and birth date. Ethnicity and birth date were collected as a portion of the students' demographic profiles. Through the regression analysis, younger students were found to have scored higher than their older classmates.

Table 32

Regression Tables for RDG Student Achievement Data

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.386[a]	.149	.131	25.200	.149	8.392	1	48	.006
2	.495[b]	.245	.213	23.977	.097	6.021	1	47	.018

a. Predictors: (Constant), BRTHDTE

b. Predictors: (Constant), BRTHDTE, ETHNIC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5329.149	1	5329.149	8.392	.006[b]
	Residual	30482.471	48	635.051		
	Total	35811.620	49			
2	Regression	8790.517	2	4395.259	7.645	.001[c]
	Residual	27021.103	47	574.917		
	Total	35811.620	49			

a. Dependent Variable: RDG

b. Predictors: (Constant), BRTHDTE

c. Predictors: (Constant), BRTHDTE, ETHNIC

Table 32 (continued)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	48857.673	16842.125		2.901	.006
	BRTHDTE	-.243	.084	-.386	-2.897	.006
2	(Constant)	53274.902	16125.690		3.304	.002
	BRTHDTE	-.265	.080	-.421	-3.300	.002
	ETHNIC	6.156	2.509	.313	2.454	.018

a. Dependent Variable: RDG

Table 33 shows the regression analysis that was completed to identify which variables had the greatest impact on students' math achievement data. The two factors identified were gender and birth date. Gender and birth date were collected as a portion of the students' demographic profiles. Through the regression analysis, younger students were found to have scored higher than their older classmates, and girls scored higher than boys.

Table 33

Regression Tables for Math Student Achievement Data

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.324[a]	.105	.086	29.142	.105	5.636	1	48	.022
2	.436[b]	.190	.155	28.019	.085	4.924	1	47	.031

a. Predictors: (Constant), BRTHDTE

b. Predictors: (Constant), BRTHDTE, gender

Table 33 (continued)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4786.655	1	4786.655	5.636	.022[b]
	Residual	40763.665	48	849.243		
	Total	45550.320	49			
2	Regression	8652.007	2	4326.003	5.510	.007[c]
	Residual	36898.313	47	785.070		
	Total	45550.320	49			

a. Dependent Variable: MA

b. Predictors: (Constant), BRTHDTE

c. Predictors: (Constant), BRTHDTE, gender

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	46295.445	19476.387		2.377	.021
	BRTHDTE	-.230	.097	-.324	-2.374	.022
2	(Constant)	52095.296	18907.616		2.755	.008
	BRTHDTE	-.259	.094	-.365	-2.753	.008
	gender	17.814	8.028	.294	2.219	.031

a. Dependent Variable: MA

Qualitative Research Question

RQ10: How do teachers address the gaps in the knowledge and skills in the pre-k experiences of their students and the relationship to their self-efficacy?

In considering the types of before kindergarten experiences students could have, teachers answered five questions using a 5-point Likert scale. For these questions, teachers also had the option of selected N/A. In case the first grade teachers did not feel

confident in answering these questions, the N/A was provided for each question and was selected by a portion of those surveyed.

Figure 13 displays teacher responses to the survey question regarding the impact of the pre-k experience. Fifty percent of teacher participants stated that students who attended a Georgia pre-k experience were prepared to learn the urban district's rigorous kindergarten standards. Also, 45% of the teachers stated that students who participated in private pre-k were prepared for kindergarten.

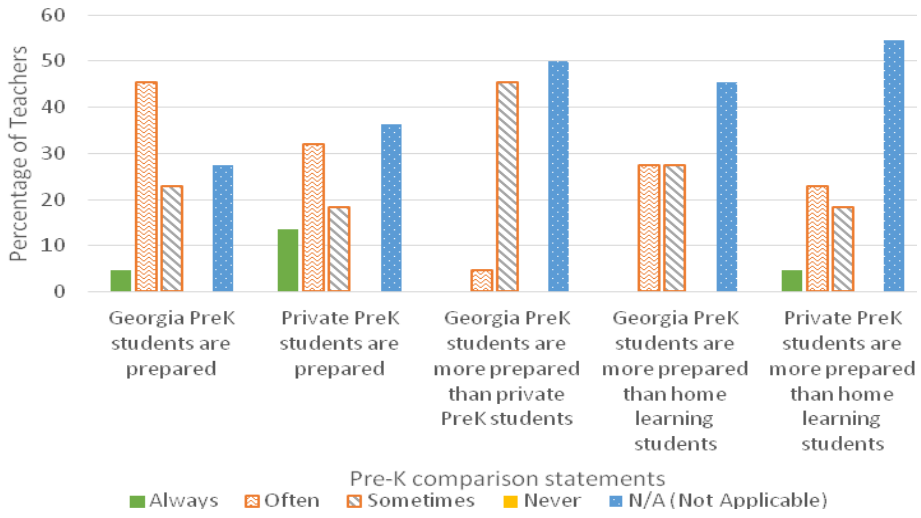

Figure 13. Teachers' perceived impact of pre-kindergarten.

There was no clear distinction between the two structured pre-k experiences denoted. Forty-five percent of teachers shared that Georgia pre-k students were sometimes more prepared than private pre-k students. Fifty-four percent of the teachers felt that students who attended Georgia pre-k often (27%) or sometimes (27%) were more prepared than students who participated in a non-structured setting (such as in-home daycare or staying home with a family member). Forty-five percent of the teachers felt

that private pre-k programs (always 4.5%, often 22.7%, sometimes 18%) prepared students more than a home setting (in-home or at-home).

Teachers answered eight questions about their instructional practices. Figure 14 displays their responses. A 4-point Likert scale was used by the teachers to respond to the questions. Of the seven specific instructional strategies/practices mentioned in the survey, all are commonly referenced and supported through professional development in the urban district and within both of the sample schools.

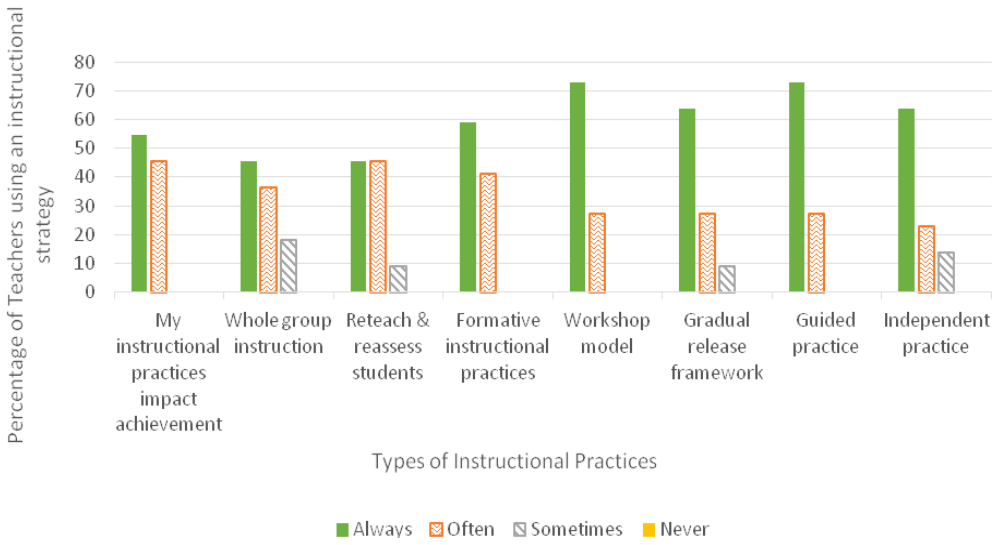

Figure 14. Teachers' instructional practices.

For each question, the majority of teachers stated that they always used the mentioned strategy. The workshop model and guided practice had the greatest responses of always used instructional practice with 73% of the teachers choosing this response. Whole group instruction and reteach/reassess had lower percentages of teacher implementation always with 45% for each practice. However, with both practices, more than 30% of the teachers selected that they often reteach/reassess (45%) and 35% use

whole group instruction. In the area of guided practice, formative instructional practices, and workshop model, 100% of the teachers stated that they either always or often implemented these practices in their classroom

Teachers responded to seven questions regarding parent engagement. Figure 15 represents teacher responses to the parent engagement questions. Responses were provided using a 4-point Likert scale.

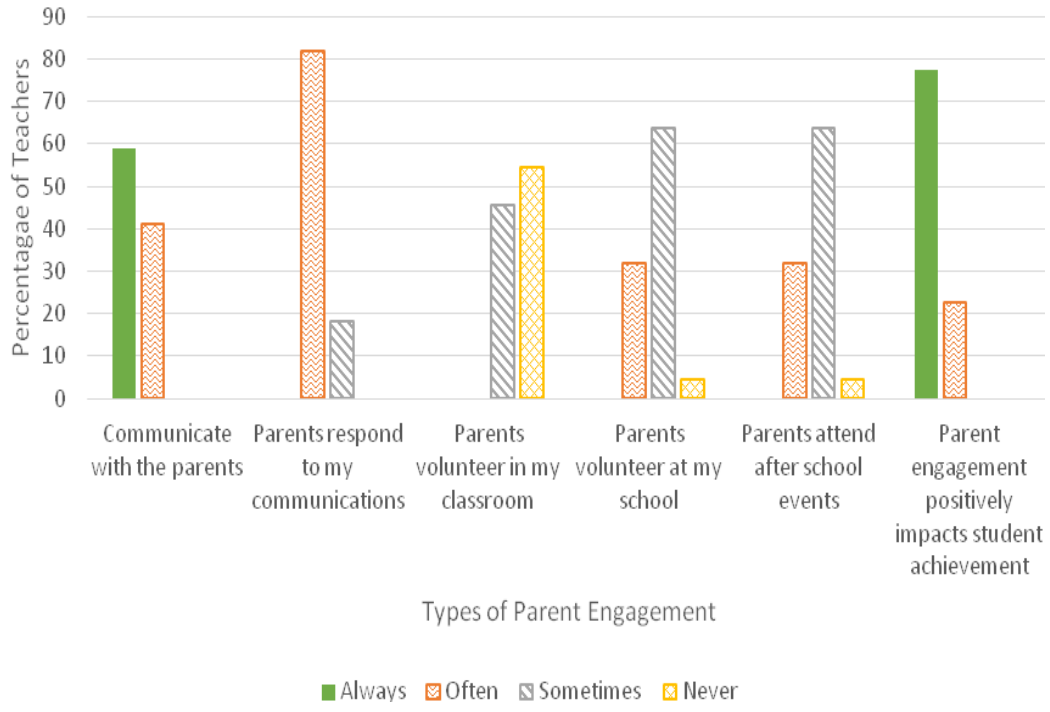

Figure 15. Teachers' perceptions of parent engagement.

Fifty-five percent of the teachers responded that parents never volunteer in their classroom, while less than 5% of teachers said parents never volunteer in their school. Five percent also said parents never attend afterschool events. On the positive side of parent engagement, more than 80% of the teachers stated that parents often respond to their communication. One hundred percent of teachers stated that they communicate with

parents. Fifty-nine percent always communicate with parents and 41% often communicate. Also, 100% of teachers agreed that parent engagement always (77%) and often (23%) positively impacts students' achievement.

Teachers were asked four questions focused on interventions to support student learning. Responses were provided using a 4-point Likert scale. Figure 16 displays the teacher responses to the survey questions about interventions. Fifty percent of teachers stated that collectively academic interventions often impact student achievement. An additional 32% said that academic interventions always impact student achievement. The intervention identified as being most impactful was EL support for students. Sixty-eight percent of teachers stated that EL support always (41%) or often (27%) increases achievement of students.

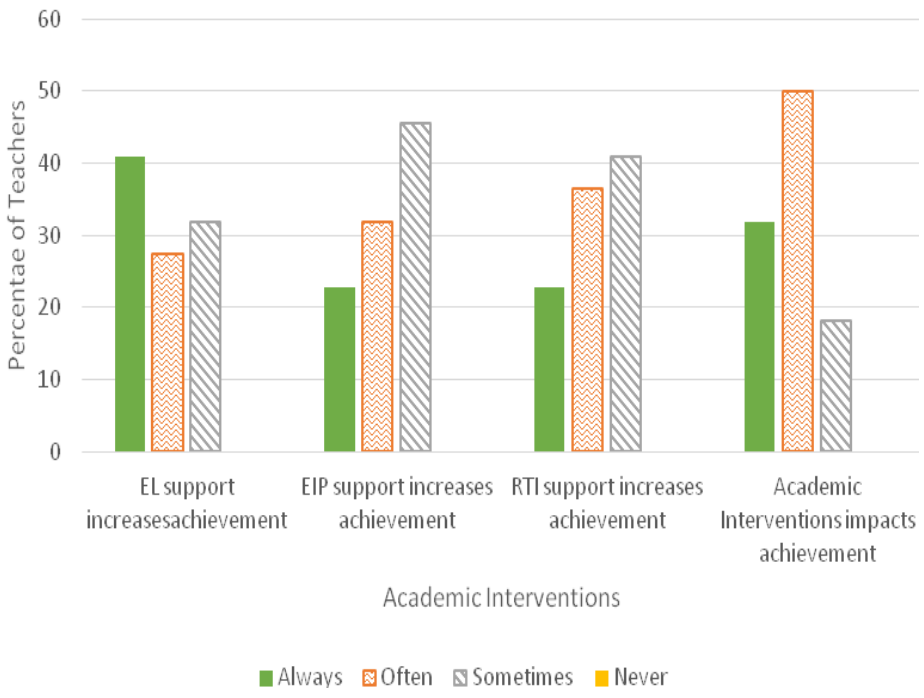

Figure 16. Teachers' perceived impact of academic interventions.

Questionnaire Analysis

The fourth area of data collection in the study included teacher questionnaires. The five questions of the open-ended questionnaire, allowed teachers to respond to questions regarding the study without being confined to the preselected answers of the teacher survey. Teacher questionnaires were originally sent to only one of the two participating schools. Teachers were invited to participate in interviews once a week for three weeks. After getting only one response from teachers, the teachers were invited to answer the interview questions as a questionnaire. The questions were sent out one final time to all 22 teachers who participated in the survey. With the fourth and final request, ten teachers from both schools in the study responded. Teachers were not asked to provide any additional demographic data for the questionnaire. It was noted that the questionnaire participants were ten teachers whose demographic information was collected through the teacher survey.

As described by the National Science Foundation, teacher responses were reviewed to the five open ended questionnaire with data reduction (Frechtling & Sharp, 1997). In reviewing the responses provided, the analysis focused on statements regarding the impact of pre-kindergarten and increasing student achievement. The responses centered around three major themes including kindergarten readiness, parent engagement, and instructional practices. With each of the five questions, commonalities in the teachers' responses were noted and labeled as threads.

- Describe the degree to which you think that pre-k experiences impact students in kindergarten and/or first grade.

- Do you deem kindergarten readiness as a serious issue of concern? Why or Why not?
- How do you address the differences between students' readiness for your grade level? Provide examples of instructional strategies used.
- Explain what you identify as the most impactful way to close achievement gaps among your students (in school or out).
- What impact does parental involvement have on students' achievement in kindergarten (or first grade)? Cite examples or reasoning to support your response.
- Any additional insights?

Table 34 displays the common themes found among teacher responses to the first question of the questionnaire. One hundred percent of the teachers in the sample found pre-k to be important. Teacher responses included terms such as essential and definitely. Teachers showed concern for students including students' readiness for kindergarten and first grade when they do not attend a pre-kindergarten program. "Pre-k experiences impact students in so many ways, social, academically, expectations, attendance, behavior, overcoming withdrawal from family," as described by Teacher 2 (personal communication, December 20, 2016). Through teacher responses, a description of social development surfaced as a theme. Teachers addressed students being prepared to interact with peers and being away from parents.

Table 34

Teacher Questionnaire Responses to Question 1: Impact of Pre-Kindergarten

1. Describe the degree to which you think that Pre-K experiences impact students in Kindergarten and/or First Grade.	
Common threads in responses	• Ready • Social • Academics

One hundred percent of the teachers who completed the questionnaire identified kindergarten readiness as a serious issue in Question 2. Each of them provided examples and the majority of the supporting details provided were linked to academic expectations. Teacher 1 referred to students' specific reading levels to support her beliefs abt kindergarten readiness, while Teacher 2 described kindergarten readiness as the foundation for education. Teacher 3 was the only teacher to mention how unprepared students impact the learning of those students who arrive ready to tackle the "rigor that begins for children as soon as they arrive in kindergarten" (personal communication, December 20, 2016) (as described by Teacher 4). Teacher 6 described the process of preparing students for kindergarten after they have enrolled as "unnecessarily stress[ful]" (personal communication, December 20, 2016) (see Table 35).

Table 35

Teacher Questionnaire Responses to Question 2: Readiness as an Entry Issue

2. Do you deem Kindergarten readiness as a serious issue of concern? Why or Why not?	
Common threads in responses	• Yes • Academics: Curriculum harder, standards higher, increase rigor

Teachers described their individual instructional practices to identify how the address student needs. As shown in Table 36, differentiation was stated directly and described in practice.

Table 36

Teacher Questionnaire Responses to Question 3: Instructional Practices

3. How do you address the differences between students' readiness for your grade level? Provide examples of instructional strategies used.	
Common threads in responses	• Differentiation • Small groups • Technology • Modeling • Data • Guided Reading

In describing differentiation, a theme of small groups arose. For example, one teacher shared, "You must meet the students where they are. That means putting students together in small groups together and focusing on skills they need help with" (Teacher 5, personal communication, December 20, 2016).

Differentiation also connected to data in the responses teachers provided. One teacher stated, "Use student data to help me differentiate" (Teacher 10, personal communication, December 20, 2016). Technology emerged as a thread among teacher responses. They also acknowledged modeling and guided reading as additional instructional guided reading strategies. In some ways, differentiation seems to relate to most of the other common themes that surfaced in Question 3 as shown in Figure 17.

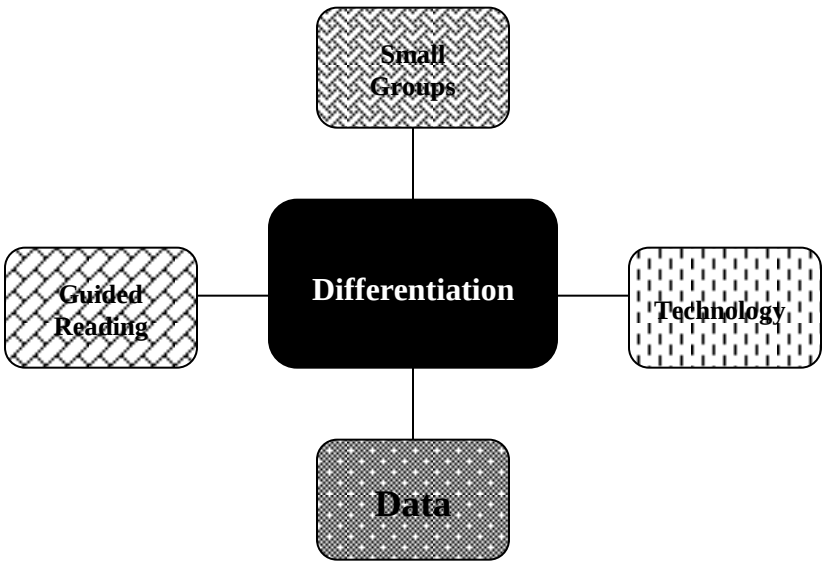

Figure 17. Relationships identified in teachers' instructional practices.

Table 37 displays the four themes found in the responses to Question Four. The most significant theme was family. Teachers agreed that parental involvement, a family presence in learning, and clear communication between home and the school had a large impact on closing the achievement gap. In Title I schools, the position, Parent Instructional Coordinator (PIC) is a funded position to increase communication between home and school. One teacher addressed this position needing to be a full-time employee with no other support roles. Another unique comment that was striking in this area addressed the elimination of paraprofessionals in the kindergarten classroom. The teacher shared that classroom teachers are in need of additional support in the classroom. She specifically stated, "Like a full time paraprofessional" (Teacher 6, personal communication, December 20, 2016).

Table 37

Teacher Questionnaire Responses to Question 4: Perceived as Most Impactful

4. Explain what you identify as the most impactful way to close achievement gaps among your students (in school or out).	
Common threads in responses	• Parent Involvement (Engagement) • Class Size • Data • Communication

With each of the first four questions, teachers selected very similar wording to convey their messages. This made identifying threads easier. With question five, each of the teachers used specific vocabulary to describe parent involvement/ engagement and its impact. This question required an additional step to identify the theme. Phrases were grouped and regrouped to find underlying relationships in the responses. Table 38 represents the five themes that emerged from this process. Parent engagement seems to increase the amount of parent support to student learning. When parents are present and know where their child is performing, they are more likely to help children close the gap and increase their academic achievement. Several teachers mentioned Academic Parent Teacher Teams (APTT) which was a part of one of the school's initiatives.

Table 38

Teacher Questionnaire Responses to Question 5: Perceived Impact of Parents

5. What impact does parental engagement have on students' achievement in Kindergarten (or First Grade)? Cite examples or reasoning to support your response.	
Common threads in responses:	• Motivation • Parent Support • Performance • Family Values • Support Model

Parent engagement positively impacts both student motivation and performance. The more students practice, the more successful they can become. Parents who are aware of classroom expectations and instructions can create these daily additional learning opportunities for their children.

The researcher was able to connect each of the additional insights provided through Question Six back to one of the five questions in the questionnaire. Table 39 displays the additional comments provided by teachers. Class size was mentioned in the additional comments and Question 4 as a means to close the achievement gap for students who arrive for kindergarten without a previously structured learning experience.

Table 39

Teacher Questionnaire Responses to Question 6: Additional Insights

6. Any additional insights?	
Common threads in responses:	• Parent Engagement • Class Size

Parent engagement was mentioned again through three of the four additional comments provided. The consistency in the responses reaffirms the statistical data from the quantitative portion of the research that parents perceived engagement has a significant relationship to several variables addressed in the study.

From the qualitative data, teachers do feel that kindergarten readiness is a concern that impacts students' achievement. They identify instructional practices that they used to

close the achievement gap, and they acknowledge the critical role parents play in student learning success as well.

Additional Quantitative Analysis

Significant relationships between student achievement data and the other variables were limited primarily to EL status, gender, and math data and English/ language arts data. However, there were other significant relationships that were identified as the Pearson correlations examined relationships among all of the variables.

As shown in Table 40, there was also a significant relationship between the lengths of the pre-k program each day and students' Reading achievement. The correlation was -.304 and the significance was at the .018 level.

Table 40

Additional Significant Relationships: Student Achievement

		ELL	Gen	Q4 Full/Half Day
ELA	Pearson Correlation	-.238*	.266*	-.115
	Sig. (2-tailed)	.037	.020	.383
	N	77	77	60
RDG	Pearson Correlation	-.137	.059	-.304*
	Sig. (2-tailed)	.236	.611	.018
	N	77	77	60
MA	Pearson Correlation	-.251*	.271*	-.028
	Sig. (2-tailed)	.028	.017	. 830
	N	77	77	60

The data in Table 40 suggest that the relationship has a negative correlation and is significant. The negative correlation could be due to the coding process. Students who attended full day were coded as 1, and students who attended part day were scored as two.

The relationship is significant in that as students' achievement scores increased the coding of their type of day decreased. The decrease represents full day attendance. Therefore, the significant relationship was that students with higher achievement attended full day programs. There was a significant relationship between students' gender and their achievement scores in ELA and math. The correlation was .266 in ELA with a significance of .020 and a correlation of .271 in math with significance at the .017 level. The female students scored higher in ELA and Math than the male students.

A significant relationship was found between parent engagement and whether or not the student attended full or half day pre-k. As shown in Table 41, the correlation was -.371, and the significance was at the .006 level.

Table 41

Additional Significant Relationships: Parent Engagement

	ELL	Gender	Question 1: PreK Attended	Question 4: Full Day/Half Day PreK	Question 5: English at home	Question 6: Primary language
Pearson Correlation	-.296*	.381**	-.319*	-.371**	.331**	-.287*
Sig. (2-tailed)	.015	.001	.012	.006	.007	.019
N	67	67	62	54	66	67

The data indicate a negative correlation that was significant. The negative correlation may be a result of coding. Full-day attendance was coded as 1, while half-day was coded as two. The negative correlation states that parents who are more engaged are more likely to send their child to full day preschool. There was also a significant relationship between parent engagement and students attending pre-k. The correlation was -.319 and the significance was at the .012 level. Again, the negative correlation is a sign of how the data was coded. Students who attended pre-kindergarten were coded as 1 (state funded) or 2 (private). These lower numbers correspond to higher parent engagement. Parents who perceived themselves to be more engaged in their third grader's learning were more likely to have attended a structured preschool experience. Gender also revealed a significant relationship to parent engagement. The parents of girls are more engaged than the parents of male students. The correlations of gender to engagement were .381 with significance at the .001 level. Language connects the remaining three significant relationships to parent engagement. ELL and parent engagement had a correlation of -.296 and significance at the .015 level. Speaking English in the home and parent engagement had a correlation of .331 with significance at the .007 level. Primary home language and parent engagement had a correlation of -.287 and significance at the .019 level. Each of these has a significant relationship with parent engagement.

Table 42 represents the additional significant relationships found with students' EL status. In addition to the correlation and significant relationship to student achievement, there is also a correlation between EL status and parent engagement.

Table 42

Additional Significant Relationships: English Language Learner Status

	ELA	MA	FRL	Parent Engagement
Pearson Correlation	-.238*	-.251*	.321**	-.296*
Sig. (2-tailed)	.037	.028	.004	.015
N	77	77	78	67

The correlation between parent engagement and EL status was -.296 with significance at the .015 level. The correlation of students EL status and socioeconomic status was .321 with significance at the .004 level. There was a significant relationship found between EL status and free and reduced lunch status.

Significant relationships were found between student achievement in reading and whether students attended pre-k full day or half day. The correlation was -.304 with significance at the .018 level. Also, a correlation of -.373 and significance of .005 was identified between parent engagement and full/half day attendance. The relationship was significant. The negative correlation could be connected to the coding of the data. Students who attended full day pre-k were coded as 1, while students who attended half day were coded as two. The negative relationship represented suggested that students who attended full day pre-k had higher student achievement scores (see Table 43).

Students' achievement data was compared to another assessment administered across the urban district entitled CogAT. The Cognitive Abilities Test, CogAT, is an assessment that provides information on student's ability and cognitive/intelligence performance.

Table 43

Additional Significant Relationships: Pre-K Attendance

		ELA	RDG	MA	Parent Engagement
Question 4: Student attends full/half day Pre-K experience.	Pearson Correlation	-.115	-.304*	-.028	-.373**
	Sig. (2-tailed)	.383	.018	.830	.005
	N	60	60	60	55

CogAT (Form 7) provides an ability profile for students in addition to their composite scores in three areas: verbal, nonverbal, and quantitative. Table 44 shows that student achievement scores on the IOWA Achievement Assessment were significantly correlated to their CogAT scores.

Table 44

Achievement Scores Correlation: CogAT Scores

		ELA	RDG	MA
CogAT Composite SAS	Pearson Correlation	.633(**)	.692(**)	.561(**)
	Sig. (2-tailed)	.000	.000	.000
	N	77	77	77

** Correlation is significant at the 0.01 level (2-tailed).

In English/language arts, the correlation was .633 and the significance was at the .000 level. In reading, the correlation was .692 and the significance was at the .000 level. In math, the correlation was .561 and the significance was at the .000 level. The

composite CogAT Standard Age Score is significantly correlated to student achievement in English/language arts, reading, and math on the IOWA assessment.

Student achievement data were compared to students' end-of-year grade averages in reading and writing. The researcher calculated the mean score of each students' quarterly grades (four grades) to find a student's end of year average. The end-of-year reading grade and student achievement scores had a correlation (ELA .832, math .653, and RDG .817) and significance at the .000 level (in all three areas). There is a significant relationship between the end of year reading grades and student achievement. The end of year writing grade and student achievement scores had a correlation (ELA .820, math .635, and RDG .769) and significance at the .000 level (in all three areas). There is a significant relationship between the end of year writing grades and student achievement (see Table 45).

Table 45

Achievement Scores Correlation: End-of-Year Grade Averages

		ELA	RDG	MA
RDG Yearlong Average	Pearson Correlation	.812**	.817**	.653**
	Sig. (2-tailed)	.000	.000	.000
	N	77	77	77
WTG Yearlong Average	Pearson Correlation	.820**	.769**	.635**
	Sig. (2-tailed)	.000	.000	.000
	N	77	77	77

**. Correlation is significant at the 0.01 level (2-tailed).

Summary

Chapter V included an analysis of the data collected from both parents and students and the correlation or significant relationships found through a regression analysis, a Pearson *r* Correlation, and ANOVA. The most significant relationships identified were the correlations between EL, gender, and English/language arts student achievement. Significant relationships were also determined to exist between student achievement (Math), gender, and EL. Data collection occurred in four ways. Parents of select students were asked to complete a survey that included demographic information, as well as, a description of the learning experiences before kindergarten and information about parent engagement. Teachers were also surveyed and completed questionnaires to provide information regarding their perceptions of the impact of pre-k, parent engagement, academic interventions, and their instructional practices (self-efficacy). The four sources of data included a review of students' academic profile: assessment records, attendance, birth date, ethnicity, and academic interventions. This study included a small qualitative portion that allowed teachers to provide insight into their perspective of student achievement and what has the greatest impact.

CHAPTER VI

FINDINGS, IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS

The study focused on the implications of the pre-k experiences on student achievement in a large urban district. The dependent variable in the study was student achievement. The independent variables included the number of children in the home, student attendance, socioeconomic status, home language, parental engagement, family structure, academic intervention and Pre-K Service Model. To complete the study, a quantitative research approach was used. The quantitative portion of the research conducted included parent surveys and student document review. To analyze the parent survey data and student document review data, a Pearson *r* Correlation, regression analysis, and, ANOVA were used to analyze the data. The small qualitative component of the study included teacher surveys and questionnaires focused on teacher perceptions of their impact on student learning and the impact of parent engagement and the pre-k experience. The survey and questionnaire questions were aligned to the research questions and then analyzed for common trends from the respondents. A ground theory qualitative approach was used to transfer these common themes to the narrative response to the appropriate research questions.

Findings

The following findings are a result of the data analysis in Chapter V.

RQ1: Are there differences in student achievement based on their pre-k experience (while considering other covariants like socioeconomic status, home language, parental engagement, family structure, the number of children in the home, Pre-K Delivery Model, attendance, and academic intervention)?

ANOVA was used to analyze data for this research question. The data do not find any significant differences in student achievement based on students' pre-k experiences. Within this urban district, by October of students' second grade school year, there is no significant relationship between student achievement (on the IOWA assessment) and students' pre-k experience.

RQ2: Is there a significant relationship between socioeconomic status and student achievement?

According to the correlation test, there is not a significant relationship between student achievement in English/language arts and socioeconomic status. Likewise, no significant relationship was identified between student achievement in reading and socioeconomic status. The lack of a significant relationship was also true for student achievement in math and socioeconomic status.

RQ3: Is there a significant relationship between home language and student achievement?

A Pearson *r* correlation was used to test the relationship between home language and student achievement. No significant relationship was found between students' home language and their achievement data in English/language arts. Similarly, there is not a significant relationship in achievement in reading and home language. The relationship between student achievement data in math and home language was not found to be significant.

RQ4: Is there a significant relationship between parental engagement and student achievement?

According to the correlation test, there is not a significant relationship between student achievement in English/language arts and parental engagement. The same is true for student achievement in reading and parental engagement. There is not a significant relationship. In the area of student achievement in math and parental engagement, no significant relationship was found.

RQ5: Is there a significant relationship between family structure and student achievement?

According to the correlation test, there is not a significant relationship between student achievement in English/language arts and family structure. Likewise, no significant relationship was identified between student achievement in reading and family structure. The lack of a significant relationship was also true for student achievement in math and family structure.

RQ6: Is there a significant relationship between the number of children in the home and student achievement?

A Pearson *r* correlation was used to test the relationship between the number of children in the home and student achievement. No significant relationship was found between the number of children in the home and students' achievement data in English/ language arts. Similarly, there is not a significant relationship in achievement in reading and the number of children in the home. The relationship between student achievement data in math and home language was not found to be significant.

RQ7: Is there a significant relationship between Pre-K Delivery Model and student achievement?

According to the correlation test, there is not a significant relationship between student achievement in English/language arts and Pre-K Delivery Model. The same is true for student achievement in reading and Pre-K Delivery Model. There is not a significant relationship. In the area of student achievement in math and Pre-K Delivery Model, no significant relationship was found.

RQ8: Is there a significant relationship between academic interventions and student achievement?

Research Question 8 can be answered in the positive. A Pearson *r* correlation was used to test the relationship between ELL and student achievement. A significant relationship was found between EL students and their achievement data in English/ language arts. There was not a significant relationship in achievement between reading achievement and ELL. The relationship between student achievement data in math and EL was found to be significant.

RQ9: Is there a significant relationship between student attendance and student achievement?

According to the correlation test, there is no significant relationship between attendance and student achievement in English/language arts at any grade. There is no significant relationship between attendance and student achievement in reading at any grade. Additionally, there is no significant relationship between attendance and student achievement in math at any grade.

Qualitative Research Question

RQ10: How do teachers address the gaps in the knowledge and skills in the pre-k experiences of their students and the relationship to their self-efficacy?

Survey questions focused on four areas to gather information on teacher's self-efficacy and the relationship to a child's pre-k experience. The four areas were pre-k experience, teacher instructional practices, academic interventions, and parental engagement. One hundred percent of teachers in the sample found pre-k to be important. The teacher participants stated that students who attended a structured pre-k experience are prepared to master the urban district's rigorous kindergarten standards. The majority of the teachers surveyed identified specific instructional strategies that they incorporate into their teaching. Each of these strategies is research based and supported through professional development within the urban district and within both of the sample schools. The instructional strategies included in the survey were the workshop model, whole group instruction, reteach/reassess, formative instructional practices, gradual release

framework, guided practice, and independent practices. In the area of parental engagement, teachers agreed unanimously that parental engagement positively impacts student achievement. Teachers agreed that academic interventions positively impact student achievement. The most significant intervention identified by teachers in the study sample was ELL support.

Summary of Findings

Significant relationships between student achievement data and the other variables were limited primarily to EL status, gender, and length of the pre-k day. The Pearson correlation data showed that non EL students had higher achievement scores than EL students in ELA and math. In regards to gender, girls had higher achievement scores than boys in ELA and math. In addition, students who participated in a full day pre-k experience outperformed their peers who attended a program that was less than a full day program in reading achievement.

Pre-K Experience

Through teacher surveys and questionnaires, teachers consistently responded positively about the need for pre-k experiences. One hundred percent of teachers in the study sample found pre-k to be important. While they identified differentiated instruction as their means for closing the achievement gaps in kindergarten and first grade, they also identified parent engagement as another influential factor on student achievement.

Parent Engagement

Other significant relationships were identified as the Pearson correlations examined relationships among all of the variables. A significant relationship was found

between parent engagement and whether or not the student attended full or half day pre-k. The negative correlation due to coding states that parents who are more engaged are more likely to send their child to full day preschool. There was also a significant relationship between parent engagement and students attending pre-k. Parents who perceived themselves to be engaged in their third grader's learning were more likely to have had their child participate in a structured preschool experience. Gender also revealed a significant relationship to parent engagement. The parents of girls are more engaged than the parents of male students.

EL Status

Students' EL status was significantly related to parent engagement. Parents of non-EL students were more engaged than the parents of EL students. In addition, speaking English in the home and parent engagement had a significant relationship. Students whose families spoke English in the home had higher student achievement scores than students who did not experience speaking English at home. A third data point collected was primary home language. Primary home language and parent engagement also had a significant relationship. Students whose primary language was English had higher student achievement scores than students for whom English was a second language. There was a significant relationship found between EL status and free and reduced lunch status. Students who were identified as EL were more likely to also be identified as having decreased socioeconomic status.

Student Achievement

IOWA Assessment data were used in this study to represent the student achievement variable. EL status, student gender, and the length of pre-k day were found to have a significant correlation to student achievement. Student achievement scores on IOWA were significantly correlated to their student's ability and cognitive/intelligence performance (CogAT scores). Student achievement data were compared to students' end-of-year grade averages in reading and writing. There was a significant relationship between the end-of-year reading grades and student achievement. There was a significant relationship between the end-of-year writing grades and student achievement.

Implications

In finding ways to increase student achievement, research suggests considering many factors. The focus of this study was to examine the possible implications of school readiness on student achievement by second grade. The results of the quantitative study suggest that pre-k experience does not have a significant impact on student achievement by second grade. Of the multiple variables in the study, EL status was found to have a significant relationship to student achievement. Also, the variable of parent engagement was found to have significant correlations to several other variables in the study.

Pre-K Experience: Teacher responses may have provided the most insight into the importance of the pre-k. One hundred percent of teachers in the study sample found pre-k to be important. Though the data did not identify a significant relationship to student achievement in second grade and pre-k attendance, teachers unequivocally responded that students who do not attend pre-k are most often behind their peers when

they enter kindergarten. Teachers explained that if students had the academic prerequisite, they may still lack the social skills or preparedness for the daily schedules and routines of the kindergarten classroom. First grade teachers identified students who had not attended pre-kindergarten as continuing to struggle in first grade. While significant correlation was not identified by Pearson correlation, the responses provided by the teachers implies that attending pre-k is critical to the success of students in the early elementary experience. A prodigious amount of value can be placed on the responses provided by teachers, when considering that teachers spend almost eight hours a day each school year face to face with the students working to prepare them for their next learning experience.

Parent Engagement: Parent engagement was the variable that had the most significant relationships with the other variables within the study. Parent engagement and pre-k attendance have a significant relationship. Parent engagement also has a significant relationship with the language spoken in the home, gender, and EL services. In essence, students who attended pre-k have parents who are more engaged in their elementary school experience. Both home language and whether or not English was spoken in the home were significantly correlated to parent engagement. Students whose families spoke English in the home had increased parent engagement over students whose families did not speak English in the home. Parent engagement decreased as the amount of Spanish spoken in the home increased. Gender also had a significant relationship with parent engagement. The parents of girls were more engaged with their children's school than the parents of boys. Also, students receiving EL services had a significant relationship to

parent engagement. The negative correlation suggests that as the parent engagement increased, the EL population decreased. This study does provide data to support building parent engagement because it is significantly related to other variables in the research. The implications from the research are that parent engagement can have a significant impact on student learning and should be considered when examining student achievement. The research implies that identified groups of the sample population of students should be addressed to increase the parent engagement.

ELL: In reviewing the data collected through the research and the significant relationships that were identified, ELL is an area where implications can be noted. The ELL dependent variable has a significant relationship to free and reduced lunch status and parent engagement. Most important to this research perhaps are the implications created by the significant relationship between EL and student achievement. The relationship was negatively correlated so that as the number of EL students increased the student achievement data decreased. Implications suggest that providing EL services and identifying EL students can impact student achievement. Within a specific socioeconomic group, providing support to second language learners and their families may have the most significant impact on increasing student achievement.

Student achievement: In analyzing the student achievement data and its relationship to other assessment data, the research indicates that there are significant relationships between students' IOWA data and CogAT scores. The data also found a significant relationship between students' reading and writing cumulative grades and their IOWA scores. These two significant relationships provide an implication that

similar findings for the research can occur with other data including student grades, abilities testing (such as CogAT), or a norm-referenced assessment (like IOWA). While the relationships between the norm-referenced IOWA and abilities based CogAT may have been already known, the relationship between these two assessments and students' yearlong grading averages may not have been investigated previously. The student assessment and grading data examined in this study focused on the second grade academic school year. These students also participated in district quarterly assessments. There may be a need to re-evaluate the benefits of district assessments in second grade when students are also taking exams such as IOWA and CogAT. In an era of increased assessment, through the additional significant findings of this study, the research supports a re-evaluation of the nation's heavy testing culture. If a norm-reference assessment, an abilities assessment, and teacher grading are as significantly related as shown through this study, a single assessment or a decrease in the number of assessments may still bring valuable data to the school districts and states across the nation.

EL is the variable that connects to student achievement and parent engagement. There was a significant relationship between EL and student achievement and EL and parent engagement. Parent engagement was the only variable found to have a significant relationship to the pre-kindergarten service model. These relationships can be examined to provide additional implications. Increasing the number of students attending pre-kindergarten can increase parent engagement. As parent engagement increases for EL students, then EL students may increase their student achievement. Perhaps in addressing

several variables together, districts can increase student achievement and pre-k experience should be included in the list of variables.

Limitations of the Study

- There are benefits to carrying out the research and following students over time, as opposed to a review of data. By completing the research over a four-year period, researchers may be able to qualitatively identify additional key factors that impacted subjects that may not have been collected through the quantitative instruments used in this research.
- The number of participants in the qualitative portion of the study was a smaller sample than the sample group used to collect the quantitative data. This was a limitation of the study.
- Data were collected in multiple areas. However, the criteria for selecting a student for data review (four years of consecutive enrollment) may have reduced the number of students eligible for review.
- The researcher worked in the district where the study was focused. The researcher worked in one of the schools in the sample. The employment of the researcher may have impacted teachers completing the surveys and questionnaires.
- An additional limitation of the research was that the parent survey required self-reporting which may have impacted the accuracy of the information.
- The lack of variation of socioeconomic status in this sample could account for the limited significant findings between pre-kindergarten experience and

student achievement data. Having a sample that was more heterogeneous in this area may have yielded additional findings.

All research has limitations but through these limitations, implications for future research were also created.

Recommendations

After completing this study, the following recommendations are being made for all stakeholders who develop policies in education, school leaders, school district officials, and future researchers.

Recommendations for School Leaders

- **Pre-K**: Build relationships with community pre-k institutions. Inform them of Kindergarten entry expectations and offer opportunities to visit the school. (See Appendices for samples of relationship models.)
- **Parent Engagement**: Develop plans to increase parent engagement for the parents of male students.
- **ELL**: Create initiatives to increase parent engagement for the parents of second language learners.
- **Student Achievement**: Support research-based, student-centered instructional practices that empower teachers so that their self-efficacy can be a positive contributing factor to student achievement.

Recommendations for School District Officials

- **Pre-K**: Encourage the elementary schools in the district to develop relationships with pre-k institutions in the area. Support local school initiatives to build relationships, and create district plans to advance these relationships. (See Appendices for samples of relationship models.)
- **Pre-K**: Conduct additional research within the district at schools with higher socioeconomic status to see if other significant relationships surface among the variables. With additional research more statistical significance may be found on the impact of the pre-k experience.
- **Parent Engagement**: Consider building parent engagement relationships before students enroll in school, by sharing expectations and prerequisite skills.
- **ELL**: Consider increased funding to support EL students within the school and additional funding to build relationships with their families to strength family engagement.
- **Student Achievement**: Consider replicating the document review portion of this study across the district. Include the district created assessments in the document review process to re-assess the benefits of district assessments in second grade when students are also taking exams such as IOWA and CogAT.

Recommendations for Educational Policy Makers

- **Pre-K**: Policy makers should continue providing federal and state funds for pre-kindergarten and to create standards and evaluate the effectiveness of programs receiving these state and federal funds.
- **Parent Engagement**: Consider publishing a policy regarding the importance of parent engagement to student learning.
- **ELL**: Policy makers should continue to allocate funds to support ESOL programs and to evaluate the use and impact of these services.
- **Student Achievement**: Consider replicating the document review portion of this study across several school districts in the state to determine if, in fact, the three different assessments are as significantly related and which one would be the most valuable.

Recommendations for Future Researchers

- **Pre-K**: There is a need for further research in this same area. Replicate the study and consider additional variables related to the classroom experience and teacher performance. Lesson delivery, technology integration, teacher performance, and classroom instruction should be considered in the study.
- **Parent Engagement**: Consider replicating this research with parent engagement as the dependent variable replacing student achievement data. Because parent engagement significantly correlated to several variables, it may yield more substantial information when studied as the dependent variable.

- **Student Achievement**: For future research, extend the study to examine eighth grade students and their norm-referenced achievement data and its connection to the early learning experience.

Conclusions

The primary focus of this research was to determine if supported pre-kindergarten experiences could improve student achievment long-term. Through parent surveys, teacher surveys and questionnaires, and a student document review, it was determined that some significant relationships exist in the data. Through a Peason *r* correlation, significant relationships were found between parent engagement and student details. The SPSS examination of the data did not provide a significant relationship between pre-kindergarten experiences and students achievement in second grade. Based on the feedback provided by teachers, kindergarten and first grade teachers within this district are seeing distinct gaps in student learning among those students who attend a structured pre-kindergarten experience and students who are in a nonstructured environment before enrolling in Kindergarten. Through teacher use of research-based, district-supported instructional strategies, these gaps are closing within the first two years in school. These qualitative results provide insight into why the expected significant relationship between achievement data and the pre-k experience was not found through this research. If kindergarten and first grade teachers are working to close these gaps for students, then by second grade one should expect there to be no noticable difference in students' performance. However, within any research experience, this study has raised new critical questions.

APPENDIX A

Parent Permission Letter

Dear Parent/Guardian:

I am a doctoral candidate in Clark Atlanta University's department of educational leadership and an assistant principal in BLANK County Public Schools. My study is reviewing the impact of preschool experiences on students' academic success.
One portion of my research will focus on reviewing the academic records of third grade students that have attended their same elementary school since Kindergarten. Your child meets this criterion, and I writing to request your permission to review your child's academic records. No names will be revealed during the data collection process. The data from this research project will not be linked to your student. Data will be shared by gender and ethnicity. Your child's teacher will not be interviewed regarding any specific information for your child. You will not be contacted for an interview regarding your child. You will be provided with a survey to provide additional information about your child's pre-school experience, but you will not be required to speak to anyone directly or identify yourself. I am asking for your permission to proceed with this step in my study by signing below to indicate your consent.

If you have questions, please do not hesitate to contact me at BLANK. Thank you in advance for taking the time to help me in my study.

Sincerely,

Dranita Morrow

Please take the survey attached or use the QR code or web address below.

English
https://goo.gl/forms/3Ybo7hfJKNXu46Oq1

Espanol
https://goo.gl/forms/EU4xlEyk9uDVWNqm2

Survey Passcode: APPLE

_____ I do give my consent to the researcher to review my child's academic profile, which may include information regarding my child's previous assessment performance, academic interventions, and record the information as indicated above.

_____ I do not give my consent to the researcher to review my child's academic profile, which may include information regarding my child's previous assessment performance, academic interventions, and record the information as indicated above.

Parent/Guardian Signature: _____

Relationship to Child: _____

Student Name: _____

Classroom Teacher: _____

Estimado padre de familia o tutor:

Yo soy una candidata a doctorado en el departamento de liderazgo educativo de la Universidad Clark Atlanta Y un subdirector en BLANK County. Mi estudio es analizar el impacto de la experiencia de pre escuela sobre el éxito académico de los estudiantes. Una porción de mi investigación se concentrara en revisión de los archivos académicos de los estudiantes de tercer grado que han asistido a su misma escuela primaria desde el Kínder. Su hijo cumple con este criterio, y estoy escribiendo para pedir su permiso para revisar los archivos académicos de su hijo. Durante el proceso de recolección de datos ningún nombre será revelado. Los datos de este proyecto de investigación no serán vinculados a su estudiante. Los datos serán compartidos por género y etnicidad. El maestro de su hijo no será entrevistado por respecto a cualquier información específica de su hijo. Usted no será contactado para una entrevista con respecto a su hijo. A usted le proporcionaran una encuesta para proveer información adicional sobre la experiencia de pre escuela de su hijo, pero usted no será requerido a hablar directamente con alguien o tener que identificarse. Le estoy pidiendo su permiso para continuar con este paso en mi estudio firmando abajo para indicar su consentimiento.

Si usted tiene algunas preguntas, por favor de contactarme al BLANK. Gracias por antemano por tomar el tiempo para ayudarme con mi estudio.

Atentamente,

Dranita Morrow

Por favor complete esta encuesta.

English
https://goo.gl/forms/3Ybo7hfJKNXu46Oq1

Espanol
https://goo.gl/forms/EU4xlEyk9uDVWNqm2

Parent Survey Passcode: APPLE

_____ Doy mi consentimiento al investigador para revisar el perfil académico de mi hijo, que puede incluir información con respecto a su rendimiento en las evaluaciones anteriores, intervenciones académicas, y registrar la información como se indica arriba.

_____ Yo doy mi consentimiento al investigador para revisar el perfil académico de mi hijo, que puede incluir información con respecto a su rendimiento en las evaluaciones anteriores, intervenciones académicas, y registrar la información como se indica arriba.

Firma: _____

Relación con el niño: _____

Nombre del Estudiante: _____

Maestro del Aula: _____

APPENDIX B

Parent Survey

1. My child attended _____

   Pre-K is any program where your child spent time learning key skills like naming letters, counting, or sharing.

   _____ Georgia state funded PreK _____ In Home daycare
   _____ Private PreK _____ Home care w/ a family member

2. My child attended the program for _____ months.

3. My child attended ____ days per week.

4. My child participated in the program

   _____ Full Day _____ Half Day

5. We speak English at home.

   _____ Never _____ Sometimes _____ Often _____ Always

6. The primary language in our home is _____.

   _____English _____Spanish _____French _____Korean _____Other

7. We also speak _____ in our home.

   _____English _____Spanish _____French _____Korean _____Other

8. Excluding the parents and the student, we have ____ other children living in our home.

9. Our home includes

Blended families include children from previous relationships. Extended families include parents, children, and other adults related to the parents. Multiple families include two or more separate families that share the same home.

___ one parent home
___ a blended family in our home
___extended family in our home
___two parents in the home
___multiple families in our home

*Place an **X** in the box that most accurately describes your level of involvement.*

Parent Engagement	**Never**	**Sometimes**	**Often**	**Always**
I talk to my child about their day at school.				
I help my child complete homework.				
I check my child's backpack.				
I volunteer at my child's school.				
I communicate with the teacher.				
I attend after school events at my child's school.				
I send in items to schools (school supplies, class snacks, other donations).				
(Please describe any additional ways you are involved that are not described in the previous questions.) Other _____				

PASSCODE: APPLE

Encuesta para los Padres de Familia

1. Mi niño asistió _____

   Pre-K es cualquier programa donde su niño paso el tiempo aprendiendo habilidades como nombrar las letras, contar, o compartir.

   _____ Programa de Pre escuela de Georgia financiado por el estado
   _____ Guardería en casa
   _____ Pre escuela Privada
   _____ Cuidado en la casa por un miembro de la familia

2. Mi niño asistió el programa por _____ meses.

3. Mi niño asistió____ días por semana.

4. Mi niño participo en el programa.

   _____ Día Entero _____ Medio Día

5. Nosotros hablamos inglés in la casa.

   _____Nunca _____A veces _____A menudo _____Siempre

6. El idioma principal en nuestra casa es _____.

   _____Inglés _____Español _____France _____Coreano _____Otro

7. Nosotros también hablamos _____ en nuestra casa.

   _____Inglés _____Español _____France _____Coreano _____Otro

8. Excepto los padres y el estudiante, nosotros tenemos ____ otros niños viviendo en nuestro hogar.

9. Nuestra casa incluye

   Familias mezcladas incluyen niños de relaciones anteriores. Familias extendidas incluyen los padres, niños, y otros adultos relacionado con los padres. Familias múltiples incluyen dos o más familias separada que comparten la misma casa.

   ____casa con un padre ____dos padres en la casa
   ____una familia mezclada en nuestra casa ____familias múltiple en nuestra casa
   ____familia extendida en nuestra casa

*Ponga una **X** adentro de la caja que describe su nivel de participacion con más exactitud.*

Participación de los padres	**Nunca**	**A veces**	**A menudo**	**Siempre**
Yo le hablo a mi niño sobre su día en la escuela.				
Yo ayudo a mi niño hacer la tarea.				
Yo reviso la mochila de mi niño.				
Yo sirvo de voluntario en la escuela de mi niño.				
Yo me comunico con el maestro.				
Yo asisto a eventos escolares después del horario regular del colegio.				
Yo envió a las escuelas artículos (útiles para la escuela, tentempiés para el aula, otras donaciones).				
(Por favor describa cualquiera manera adicional que usted participa que no está describía en las preguntas anteriores.) Otro _____				

Passcode: «PASSCODE»

APPENDIX C

Teacher Questionnaire

1. Delivery Model: Describe the degree to which you think that Pre-K experiences impact students in Kindergarten and/or First Grade.

2. Teacher Effectiveness: Do you deem Kindergarten readiness as a serious issue of concern? Why or Why not?

3. Teacher Effectiveness: How do you address the differences between students' readiness for your grade level? Provide examples of instructional strategies used.

4. Academic Intervention: Explain what you identify as the most impactful way to close achievement gaps among your students (in school or out).

5. Parental Engagement: What impact does parental engagement have on students' achievement in Kindergarten (or First Grade)? Cite examples or reasoning to support your response.

6. Any additional insights?

APPENDIX D

Teacher Survey

Demographic Information

Teacher Name _____

School Location _____

Highest Level of Education _____

Years of Teaching Experience _____ Ethnicity _____

Place an **X** in the box that most accurately describes your level of involvement.

Parental Involvement	**Never**	**Sometimes**	**Often**	**Always**
I communicate with the parents of my students.				
Parents respond to my communication.				
Parents volunteer in my classroom.				
Parents volunteer in my school.				
Parents attend after school events at my child's school.				
Parental Involvement positively impacts student achievement.				
Academic Intervention	**Never**	**Sometimes**	**Often**	**Always**
Participating in EL support services increases my EL students' achievement.				
Participating in EIP support services increases my EIP students' achievement.				
Participating in RTI support services increases my students' achievement.				

	Never	Sometimes	Often	Always
Academic Intervention positively impacts student achievement.				
Pre-K Service Model Participation	**Never**	**Sometimes**	**Often**	**Always**
My students who attend Georgia Pre-K are prepared for the district's Kindergarten curriculum.				
My students who attend private Pre-K are prepared for the district's Kindergarten curriculum.				
Georgia Pre-K participants are more prepared for Kindergarten than private Pre-K students.				
Georgia Pre-K participants are more prepared for Kindergarten than home learning students.				
Private Pre-K participates are more prepared for Kindergarten than home learning students.				
Teacher Instructional Practices	**Never**	**Sometimes**	**Often**	**Always**
My instructional practices positively impact my students learning.				
I provide whole group instruction.				
I reteach and reassess students.				
I use formative instructional practices.				
I teach through the workshop model.				
I have implemented gradual release in my classroom.				
I use guide practice in my classroom.				
I use independent practice in my classroom.				

APPENDIX E

Relationship Models

Establishing Relationships between Pre-K and Elementary Schools

As a result of the study, the recommendation was made to build relationships and strengthen communication between preschool programs and elementary schools. Below are possible models to be considered by district officials and school leaders.

Model 1

Create a liaison position within the district to communicate district expectations with local pre-k site locations, parents, and in-home daycares. The Director of Early Learning would develop a means of collecting readiness data as students enter kindergarten. The district can use the data collected to recognize programs that are adequately preparing students and programs that may need support on how to strengthen instruction in specific areas. The district would collect data on students' experiences prior to kindergarten to ensure all target groups are included in the plan. In addition to building relationships with daycare facilities, the liaison would reach out to in-home daycares in the district as well. Hosting training semi-annually at no cost to participants increases the likelihood of participation. Through this experience, district standards, the state early childhood curriculum, and instructional strategies should be shared. In using this model, there is also a need to reach parents who do not use outside childcare prior to

kindergarten. The Director of Early Learning would hold quarterly meetings with parents beginning two years before kindergarten entry. The first year would focus on resources and supports available and the state's early development standards (if available). The meetings in the second year would focus on state early development standards and previewing the state's and district's kindergarten standards.

Model 2

Build a relationship with childcare facilities near your school. Invite the owner and director in during the summer to plan two collaboration activities for the next school year. Schedule a fall parent meeting where the parents of pre-k students are introduced to the Kindergarten curriculum. Schedule spring tours where daycares can bring students to visit the school before enrollment.

Model 3

Invite a reputable daycare to share the school facilities. Moving forward as the district grows, the leaders would offer a daycare the opportunity to build their facility connected to the school or on the grounds of the new building. The program must be willing to follow district policies and procedures and present their curriculum to the district for approval.

Model 4

School leaders would find investors to fund additional programs at the school for future students. The external funding would provide opportunities for parent workshops, student pre-k classes, and community outreach. School leaders would need to have a

long-term plan of action which includes how the funds would be used, determining the impact of the initiative, and a secondary investor in case of loss of the initial funding.

Model 5

Build pre-k classrooms in the elementary school buildings and request state and federal monies to fund the program. For a district that is frequently building schools, they would be able to plan space for pre-k classes within the newly built elementary schools. These classes would become a means for developing a pre-k through 12th grade school district.

**While the responsibilities may be lessened because of the additional support being created in Models 2-5, each model would benefit greatly from having a liaison as described in the first model. Model 1 is the only model described that addresses students who stay home with a family member. Models 2-5 may need the liaison position to ensure that home relationships are being established simultaneously with instructional programs.

REFERENCES

Alordiah, C., Akpadaka, G., & Oviogbodu, C. (2015). The influence of gender, school location and socio-economic status on students' academic achievement in mathematics. *Journal of Education and Practice*, *6*(17), 130-136.

Annie E. Casey Foundation. (2012). *Double jeopardy*. Baltimore, MD. Retrieved from http://www.aecf.org/resources/double-jeopardy/

Annie E. Casey Foundation. (2013a). *Early warning confirmed*. Baltimore, MD. Retrieved from http://www.aecf.org/m/resourcedoc/AECF-EarlyWarningConfirmed-2013.pdf

Annie E. Casey Foundation. (2013b). *The first eight years*. Baltimore, MD. Retrieved from http://www.aecf.org/m/resourcedoc/AECF-TheFirstEightYearsKCpolicyreport-2013.pdf#page=3

Armor, D. (2014a). We have no idea if universal preschool actually helps kids. *Washington Post*. Retrieved from https://www.washingtonpost.com/posteverything/wp/2014/10/21/we-have-no-idea-if-universal-preschool-actually-helps-kids/

Armor, D. (2014b). *The evidence on universal preschool*. Cato Institute. Retrieved from https://www.cato.org/publications/policy-analysis/evidence-universal-preschool

Atchison, B., & Workman, E. (2015). *State pre-k finding: 2014-15 fiscal year*. Denver, CO: Education Commission of the States. Retrieved from http://www.ecs.org.clearinghouse/01/16/97/11697.pdf

Balfanz, R., & Byrnes, V. (2012). *Chronic absenteeism: Summarizing what we know from nationally available data*. Baltimore, MD: Johns Hopkins University Center for Social Organization of Schools.

Bandura, A. (2012). *Self-efficacy* (1st ed.). New York, NY: Freeman.

Blasé, J., & Blasé, J. (2004). *Handbook of instructional leadership*. Thousand Oaks, CA: Corwin Press.

Bloom's Taxonomy. (2016). *Center for Teaching, Vanderbilt University*. Retrieved from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

Broomes, O. P. (2013). More than a new country: Effects of immigration, home language, and school mobility on elementary students' academic achievement over time. *Education Policy Analysis Archives, 21*(48). Retrieved from http://epaa.asu.edu/ojs/article/view/884

Brown, A., & Lee, J. (2014). School performance in elementary, middle, and high school: A comparison of children based on HIPPY participation during the preschool years. *School Community Journal, 24*(2), 83-106. Retrieved from http://files. eric.ed.gov/ fulltext/EJ1048627.pdf

Brown, M. (2014). *Fragile families and child wellbeing study*. Robert Wood Johnson Foundation. Retrieved from http://www.rwjf.org/content/dam/farm/reports/ program_results_reports/2014/rwjf410422

Bruner, J. (1966). *Toward a theory of instruction*. Cambridge: The Belknap Press of Harvard University Press.

Campbell, F., Pungello, E., Burchinal, M., Kainz, K., Pan, Y., & Wasik, B., et al. (2012). Adult outcomes as a function of an early childhood educational program: An Abecedarian project follow-up. *Developmental Psychology*, *48*(4), 1033-1043. Retrieved from http://dx.doi.org/10.1037/a0026644

Chang, H. N., & Romero, M. (2008). Present, engaged and accounted for: The critical importance of addressing chronic absence in the early grades. New York: National Center for Children in Poverty (NCCP), The Mailman School of Public Health at Columbia University.

Common Core Georgia Performance Standards (CCGPS). Retrieved from http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Curriculum-and-Instruction/Pages/CCGPS.aspx

Costa, K. (2012). *Not the ceiling, but the floor – Center for American progress*. Retrieved from https://www.americanprogress.org/issues/education/reports/2012/06/01/11745/not-the-ceiling-but-the-floor/

Child Parent Center. (2016). *Early childhood*. Retrieved from http://cps.edu/Schools/EarlyChildhood/Pages/Childparentcenter.aspx

Creswell, J. (2013). *Qualitative inquiry & research design* (3rd ed.). Thousand Oaks: Sage Publications.

Creswell, J. (2015). *A concise introduction to mixed methods research* (1st ed.). Thousand Oaks, CA: Sage Publications.

Consortium of Universities for Research in Earthquake Engineering **(**CUREE). (2015). *CUREE: Summary of Jerome Bruner's work in relation to the curriculum for the*

21st century curriculum: Building the evidence base project. (1st ed.). Retrieved from http://www.curee.co.uk/files/publication/1224601725/Bruner.pdf

Dalmia, S., & Snell, L. (2008). Protect our kids from preschool. *Wall Street Journal*. Retrieved from http://www.wsj.com/articles/SB121936615766562189

Darling-Hammond, L. (1998). Teacher learning that supports student learning. *Educational Leadership, 55*, 6-11. Retrieved from http://www.ascd.org/publications/educational-leadership/feb98/vol55/num05/Teacher-Learning-That-Supports-Student-Learning.aspx

Early Childhood Learning and Knowledge Center. (2015). Retrieved from http://eclkc.ohs.acf.hhs.gov/hslc

Elementary and Secondary Education Act. (2015). U.S. Department of Education. Retrieved from http://www.ed.gov/esea

Every Student Succeeds Act (ESSA). (2016). U.S. Department of Education. Retrieved from https://www.ed.gov/essaess

Fink, J. (2015). *Common core: Assessments. Scholastic teachers*. Retrieved from http://www.scholastic.com/teachers/article/common-core-assessments

Fonteboa, M. (2012). *The effects of the family on student achievement: A comparative study of traditional and nontraditional families* (Unpublished doctoral dissertation). Liberty University, Lynchburg, VA.

Frechtling, J. & Sharp, L. (1997). *Analyzing quantitative data*. Retrieved from https://www.nsf.gov/pubs/1997/nsf97153/chap_4.htm

George, M. (2001). *Teachers learning together: Faculty book clubs as professional development in an urban middle school*. Presentation at the Annual Meeting of the American Educational Research Association, Seattle, WA.

Georgia Department of Education (GaDOE). (2011). *GaDOE research shows student attendance significantly impacts student achievement*. Retrieved from http://www.gadoe.org/External-Affairs-and-Policy/communications/Pages/PressReleaseDetails.aspx?PressView=Archive&pid=19

Georgia Department of Education. (2015). Retrieved from http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Curriculum-and-Instruction/Pages/CCGPS.aspx

Georgia Standards. (2015a). *College and career ready performance index*. Retrieved from https://www.georgiastandards.org/CCRPI/Pages/CCRPI.aspx

Georgia Standards. (2015b). *Georgia standards of excellence (GSE)*. Retrieved from https://www.georgiastandards.org/Georgia-Standards/Pages/default.aspx

Glickman, C., Gordon, S., Ross-Gordon, J., & Glickman, C. (2014). *Super vision and instructional leadership: A developmental approach* (9th ed.). Boston: Allyn and Bacon.

Grehan, A., Cavalluzzo, L. Gnuschke, J., Hanson, R., Oliver, S., & Vosters, K. (2011). *Participation during the first four years of Tennessee's voluntary prekindergarten program*. Issues & Answers Report, REL 2011-No.107. Washington, DC: U.S. Department of Education, Institute of Education Science. Retrieved from http://ies.ed.gov/ncee/edlabs.

Guernsey, L. (2011). *12 Ideas for early education in the 112th congress*. New America. Retrieved from https://www.newamerica.org/education-policy/policy-papers/12-ideas-for-early-education-in-the-112th-congress/

Harlem Children's Zone (HCZ). (2015). *History and origins of HCZ*. Retrieved from http://hcz.org/about-us/history/

Hatzitheologou, E. (1997). Reading achievement, birth order and family size. *International Journal of Early Childhood*, *29*(2), 14-21. doi.org/10.1007/bf03174481

Hess, K., Jones, B., Carlock, D., & Walkup, J. (2009). *Cognitive rigor: Blending the strengths of Bloom's taxonomy and Webb's depth of knowledge to enhance classroom-level processes*. Retrieved from http://dx.doi.org/ED517804

Humble, G. (2016). *Early intervention program (EIP) guidance 2016-2017*. Atlanta: GA: Georgia Department of Education. Retrieved from https://www.gadoe.org/Curriculum-Instruction-and-Assessment/Curriculum-and-Instruction/Documents/EIP/2016-2017-EIP-Guidance.pdf

Kochhar, R., Suro, R., & Tafoya, S. (2005). Pew Hispanic center: Chronicling Latinos' diverse experiences in a changing America. *Choice Reviews Online*, *42*(12), 42. Retrieved from http://dx.doi.org/10.5860/choice.42sup-0547

Koonce, G. (2014). *Taking sides: Clashing views on educational issues* (18th ed.). Columbus, OH: McGraw Hill Higher Education.

Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory Into Practice, 34*(3), 159-165. doi.org/10.1080/00405849509543675

Ma, X. (2001). Stability of socio-economic gaps in mathematics and science achievement among Canadian schools. *Canadian Journal of Education, Revue Canadienne De L'éducation*, *26*(1), 97. Retrieved from http://dx.doi.org/10.2307/1602147

McLeod, S. (2015). *Bruner - learning theory in education: Simply Psychology*. Retrieved from http://www.simplypsychology.org/bruner.html

McMillan, J., & Turner, A. (2014). Understanding student voices about assessment: Links to learning and motivation. *Contemporary Educational Psychology, 36*, 36–48. doi:10.1016/**j**.cedpsych.2010.10.002.

McNeal, Jr. R. (1999). Parental Involvement as Social Capital: Differential Effectiveness on Science Achievement, Truancy, and Dropping Out. *Social Forces, 78*(1), 117-144. doi:10.1093/sf/78.1.117

McNeal, Jr., R. (2014). Parent involvement, academic achievement and the role of student attitudes and behaviors as mediators. *Universal Journal of Educational Research*, *2*(8), 564-576. doi.org/DOI: 10.13189/ujer.2014.020805

Miedel, W. T., & Reynolds, A. J. (1999). Parent involvement in early intervention for disadvantaged children: Does it matter? *Journal of School Psychology***,** *37*(4), 379-402.

Miller, D. (2008). *Teaching with intention* (1st ed.). Portland, ME: Stenhouse Publishers.

Mulligan, G. M., McCarroll, J. C., Flanagan, K. D., & Potter, D. (2014). Findings from

the first-grade rounds of the early childhood longitudinal study, kindergarten class of 2010-11. Washington, DC: National Center for Education Statistics, Institute of Education Sciences. Retrieved from http://nces.ed.gov/pubsearch

National Center for Education Statistics (NCES). (2015). *NAEP reading - scheduled reading assessments, past results, trends, methods*. Retrieved from http://nces.ed.gov/nationsreportcard/reading/

No Child Left Behind. (2015). Retrieved from http://www2.ed.gov/nclb/landing.jhtml?src=ft

Non-Regulatory Guidance Early Learning in the Every Student Succeeds Act: Expanding Opportunities to Support our Youngest Learners. (2016). Retrieved from https://www2.ed.gov/policy/elsec/leg/essa/essaelguidance10202016.pdf?

Piaget, J., Inhelder, B., & Weaver, H. (2000). *The psychology of the child*. New York: Basic Books.

Range, B., Duncan, H., & Hvidston, D. (2013). How faculty supervise and mentor pre-service teachers: Implications for principal supervision of novice teachers. *Leadership Preparation, 8*(2), 43-58.

Ready, D. (2010). Socioeconomic disadvantage, school attendance, and early cognitive development: The differential effects of school exposure. *Sociology of Education, 83(4)* 271-286.

Reynolds, A., Richardson, B., Hayakawa, M., Lease, E., Warner-Richter, M., Englund, M., et al. (2014). Association of a full-day vs part-day preschool intervention with school readiness, attendance, and parent involvement. *Journal of the American*

Medical Association, 312(20), 2126. Retrieved from http://dx.doi.org/10.1001/jama.2014.15376

Spradlin, T., Cierniak, K., Shi, D., & Chen, M. (2012). Attendance and chronic absenteeism in Indiana: the impact on student achievement. *Center for Evaluation and Education Policy, 10*(3), 1-4. Retrieved from http://www.ceep.indiana.edu/projects/PDF/PB_V10N3_2012_EPB.pdf

Stetson, R., Stetson, E., Sinclair, B., & Nix, K. (2012). Home visits: Teacher reflections about relationships, student behavior, and achievement. *Issues in Teacher Education, 21*(1), 21-37. Retrieved from http://files.eric.ed.gov/fulltext/EJ986814.pdf

Teachers Speak Out: 2014 AAE Membership Survey. (2015). *Education Matters*, 1-4. Retrieved from http://www.aaeteachers.org/images/em/2014febnews.pdf

Toppo, G. (2010). Duncan wants 3 ratings for schools in education overhaul. *USA Today*. Retrieved from http://usatoday30.usatoday.com/news/education/2010-03-13-education13_ST_N.htm

Vaden-Kiernan, N., & McManus, J. (2005). Parent and family involvement in education: 2002–03. Retrieved from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005043

Walpole, S., & Beauchat, K. (2008). *Facilitating teacher study groups*. Washington, DC: Literacy Coaching Clearinghouse.

WIDA. (2016). Retrieved from https://www.wida.us/index.aspx

Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M., Espinosa, L., & Gormley, W., et al. (2013). *Investing in our future: The evidence base on preschool-*

Foundation for child development. Retrieved from https://www.fcd-us.org/the-evidence-base-on-preschool/

Zepeda, S. (2004). Leadership to build learning communities. *The Educational Forum, 68,* 144-151.

Zhao, H., & Modarresi, S. (2013). *Impact of full-day head start prekindergarten class model on student academic performance, cognitive skills, and learning behaviors by the end of grade 2*. Rockville, MD: Montgomery County Public Schools. Retrieved from http://files.eric.ed.gov/fulltext/ED557726.pdf